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ABSTRACT

The proceedings of the 3-day Australian National Workshop on Distance Education, whose theme was "Coping with Curriculum," include 18 papers, 2 workshop reports, and appendices that list participants and state, territory, and New Zealand representatives. The 36 recommendations developed by the workshop groups include recommendations to state and commonwealth governments, and recommendations concerning interstate coordination and cooperation, curricula for distance education, teacher recruitment and development, human support systems, communications technology, and research and development. The section on developing curricula and learning materials in distance education contains two papers. "Producing Curriculum Materials in the State and Northern Territory Systems" includes five papers describing curriculum materials production in different areas. Two papers discuss the parents' viewpoint on distance education. Three papers on human support systems include discussions of teaching mothers and itinerant teachers. "Technological Delivery Systems" covers use of satellites, the telecom network, and other technology useful in distance education. Other papers discuss isolated children and revitalizing distance education. Themes of the two workshop summary reports are producing and using curriculum materials, and delivering curriculum materials. (MH)

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National Workshop on Distance Education
Perth
July 13-15, 1983

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The University of Western Australia

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COPING WITH CURRICULUM

Papers and Proceedings of the
National Workshop on Distance Education
held in Perth, July 13–15, 1983, jointly sponsored by the
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Foreword

When it was suggested to me that the Distance Education Centre and the National Centre for Research on Rural Education might jointly sponsor a national conference on distance education, I gave the proposal my unqualified support. It had been some six years since the first national workshop was held at Raywood in South Australia, and in that period, in all of the states and the Northern Territory, distance education had undergone considerable change. It is highly likely that the process of change will continue. In some respects it might even accelerate. The revolution in communications and information-processing technology has important implications for education generally, but in distance education in particular it has the potential to transform the system. For these reasons, I thought it was timely that a group of parents, teachers and administrators from throughout Australia should meet to review progress and consider directions for the future.

The sorts of changes which have been introduced in the past six or seven years are illustrated by some of the innovations in Western Australia. I will refer to three only. The first, in time but not necessarily in importance, was the Isolated Students' Matriculation Scheme to provide modern correspondence courses for rural matriculation students. It commenced in 1976 with a pilot group of thirty students. Since then it has been integrated with the unified distance education structure and in 1983 is providing courses for 1178 students of whom one hundred and twenty-nine are of school age and the remainder are adults. The second was the Chidley Educational Centre to provide remedial and psychological services for children who live in isolated locations. Of course, not all of these are distance education students: we have many small schools in remote areas. Even so, in the eight years since its inception in 1976 the Chidley Centre has offered a residential service to six hundred and thirty-three children who experience learning difficulties. That service, combined with the itinerant remedial teaching service provided by the Rural Children's Special Education Unit, means that diagnosis and remediation are now available for distance education students. The third was to integrate our pre-primary, primary and secondary correspondence units in a single structure located on site known as the Distance Education Centre. It was opened officially in April of this year.

Different, but equally as successful innovations have been introduced in other states. Each has developed its own methods for coping with the difficulties of distance education. In organisational terms, however, the basic problems are essentially the same: how to provide a range of educational services at least equal to those offered in conventional schools; and how to overcome the major obstacle of distance education, that of the geographic separation of teacher and pupil. In the relatively short time since the Raywood Conference much has been achieved.

The next phase of change might well focus on the problems of isolation of teachers from their pupils and the home tutors. It is here that educational applications of the rapidly evolving communications technology offer the most promise. The Commonwealth government's decision to proceed with the national communications satellite system, AUSSAT, has stimulated educationists to consider how it can be used most effectively for educational purposes. A distance-indifferent communications system might well make possible new ways of bridging the distances that, until now, have been traversed educationally by correspondence courses, schools of the air and the itinerant teacher services. Already there are projects under way in several states to trial new educational media. We are watching them closely.

There is little doubt that these developments could contribute to momentous advances in distance education. We should not underestimate their potential nor the rate at which technology will evolve. At the same time we must be realistic in our expectations. In this respect, I wish to focus on two concerns: those of cost-effectiveness and the human quality which is of the essence in education.

I think we all recognize that the period of rapid growth in educational expenditure is behind us. While we hope that the current economic recession and its effects upon public spending will not continue much longer, we must accept that education cannot anticipate the favoured treatment it was afforded in the first half of the 'seventies. We will have to be prudent about new developments. For that reason, when we consider the application of communications technology to distance education, we must be certain that it will be cost-efficient and educationally effective. Similarly, when we pursue the other suggestions for change which are advanced in this report, we must consider the balance between their cost and their intended outcomes.

My other concern is not unrelated to the first. At several places in this report reference is made to the needs of students, their home tutors, distance education teachers and administrators. Some of them are about resources, curriculum, and organization, but many others are essentially human problems: how to help people cope with teaching and learning at a distance. New communications systems might offer means of delivering help, but we must be mindful that the technology is primarily an aid to education. It must not dictate what education will be. Neither should it compete. Rather it should supplement and support the range of services which together compose the educational package.

The theme of this National Workshop on Distance Education was 'Coping with Curriculum'. This report outlines some of the methods used in the several state systems. It also presents some of the problems which are yet unresolved and recommends means to overcome them. If those recommendations can be translated into practice, we will have achieved a lot.

Robert Vickery

ROBERT L. VICKERY
DIRECTOR-GENERAL OF EDUCATION

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Preface

In 1976 at Raywood, South Australia, a conference was held with the theme 'The Changing Role of the Correspondence School'. Each state was represented and a comprehensive report was published. Many of its recommendations were adopted and implemented by state authorities. They also responded to other needs not anticipated at Raywood: extensive changes have been made to curricula and new services have been introduced.

It is highly likely that in the next decade distance education will be subject to new and different pressures for innovation. At the same time, administrators, teachers, and home tutors are still trying to cope with the enduring problems of the isolated learner, inadequate resources in some areas of the curriculum, and course materials which have been superseded by recent developments in primary and secondary education.

The second National Workshop on Distance Education, held in Perth on July 13-15, 1983, addressed these and other problems. The theme was 'Coping with Curriculum'. One hundred and five representatives of state and Commonwealth education authorities, correspondence schools and schools of the air, teachers, parents and home tutors, and other interested bodies, met to share information about developments since Raywood, to discuss their respective concerns and problems, and to make recommendations for the future development of distance education.

This report contains the papers presented, a summary of the daily workshop proceedings, and the recommendations which were framed on the final day. It is in three parts corresponding to topics considered on each of the three days: Producing and Using Curriculum Materials; Delivering Curriculum Materials; and Revitalising Distance Education.

In the first part the procedures for developing curricula and learning materials for distance education in each of the state systems are described. The papers by Marlene Sheppard and Brian Gaines set the scene, outline some of the issues and introduce some of the problems to be resolved. The perspectives they present bear close comparison with the systems outlined in the papers from the other states. They also bear close comparison with papers by Jan Gall and Rory Treweeke. Jan's paper, in particular, portrays with directness and simplicity the difficulties faced by home tutors. The importance of what was said is reflected in the deliberations of the small group workshops of Day One.

The papers in the second section are divided into two parts. The first introduces human support systems - the distance education teacher (Patricia Hubbard), the home tutor (Joanne Hamilton) and the itinerant teacher (Fred Hockley). The second considers the role of technology - the national communications satellite system (Don Kennedy), telecommunications (Brenton Phillis), and audio-visual teaching and learning aids (Tony Dean). The interface of distance education and communications technology is described by Colin Dunnett.

Policy options for revitalising distance education are contained in the third section. Ormond Tate, the Principal of the New Zealand Correspondence School, discusses procedures followed in his school. This was one of the two presentations on the final day of the workshop. In it are contained examples of organizational practices which might be adapted, in whole or in part, to the distance education systems within Australia. The second presentation in this final session was by Dr P.D. Tannock, Chairman of the Commonwealth Schools Commission. He addressed recent policy initiatives of the Commonwealth government and considered their implications for distance education in the states. Unfortunately, it was not possible to include the text of Dr Tannock's address in this report. However, one of the matters emphasized by him was the need for the respective governments of the Commonwealth and the states to define their responsibilities in distance education.

The recommendations arrived at by the workshop groups at the end of the three days of deliberation are presented at the beginning of the report. It is hoped that they will be used as a working paper for distance education systems in each of the states and the Northern Territory. Their implications are best understood if read in conjunction with the relevant papers presented and the workshop reports.

Recommendations

1 That the Commonwealth and state governments define their respective responsibilities in distance education.

COMMONWEALTH GOVERNMENT

2 That the Curriculum Development Centre give special consideration to the needs of distance education.

3 That the Loan Video Program be extended to cover all primary and secondary correspondence school and school-of-the-air students.

4 That the Country Areas Program of the Commonwealth Schools Commission continue and that it be funded on a triennial basis.

5 That the Commonwealth Department of Education and Youth Affairs appoint a liaison officer to the Australasian Association of Distance Education Principals.

STATE GOVERNMENTS

6 That each state and the Northern Territory establish a division of distance education, and that:

- they be allocated adequate staffing and facilities to increase the efficiency of distance education;
- they be allocated sufficient funds to provide educational opportunities equivalent to those available to students in normal schools;
- they be allocated sufficient funds to prepare and produce distance education materials which are compatible with curricula in current use in schools;
- they establish procedures which will enable liaison between teachers, course writers, illustrators and ancillary personnel in the production of high quality curriculum materials.

7 That each state and the Northern Territory establish an integrated distance education centre to coordinate all facets of distance education, but that the marking of students' work be decentralised through regional correspondence schools and/or schools of the air.

8 That the need for more schools of the air be investigated.

9 That provision be made for the maintenance and repair of equipment used by distance education students (for example, cassette recorders, transceivers, and video equipment).

INTERSTATE COORDINATION AND COOPERATION

10 That a national coordinating body be established, consisting of representatives of the providers and recipients of distance education. It should become involved in:

- establishing standards of resource provision;
- collection and collation of relevant information on the needs of the isolated, especially the itinerant students;
- establishing long-term strategies to cater for needs;
- recommending national guidelines for common levels in core subjects.

11 That the interstate exchange of new and existing distance education resource materials be facilitated by:

- the distribution annually of each correspondence school and school-of-the-air handbook showing curriculum course offerings to all other correspondence schools and schools of the air;
- that all states and the Northern Territory make available to others on request one copy of course materials with the right to reproduce those materials;
- as a matter of standard practice, correspondence schools and schools of the air advise each other of newly published courses;
- as a matter of standard practice, correspondence schools and schools of the air notify each other of projected course developments and exchange information where similar developments are envisaged.

12 That the Conference of Directors-General give support to the notion that cooperation among distance education centres in the states and the Northern Territory will provide positive cost benefits.

13 That the Conference of Directors-General consider the establishment of a clearinghouse of distance education curriculum materials.

CURRICULA FOR DISTANCE EDUCATION

14 That top priority be given to the production of high quality printed materials which are the mainstay of distance education.

15 That whenever departmental decisions are made to introduce new curricula to schools generally, adequate financial and other resources continue to be available for the production of appropriate distance education materials.

16 That in the production of curriculum materials for distance education there be

- continuing consultation and dialogue between teachers, other professionals with appropriate expertise, and experienced home tutors; and
- sufficient funds made available to enable such consultation and dialogue.

17 That course writers should be made thoroughly familiar with the circumstances of distance education students and home tutors.

18 That new curricula be trialled in the homes of distance education students.

19 That curricula be expanded to provide

- more optional subjects such as Art, Music, foreign languages and Physical Education;
- enrichment materials for gifted and talented students;
- modified courses for the learning disabled; and
- more opportunities for socialization.

TEACHER RECRUITMENT AND DEVELOPMENT

20 That distance education teachers be appropriately trained and selected and that their status be acknowledged in non-discriminatory promotional opportunities.

21 That specialist staff (for example, remedial and guidance) be appointed and/or available to correspondence schools, schools of the air and small remote schools.

22 That continuing teacher development be given priority in distance education, and to promote this

(a) all teachers appointed to correspondence schools and schools of the air be given specific induction; and

(b) all state distance education centres be allocated funds to plan and organize regular inservice programs.

23 That pre-service teacher education programs should focus some attention on the needs of distance education students.

HUMAN SUPPORT SYSTEMS

24 That home tutors be recognized as an integral part of distance education.

25 That distance education systems be decentralised so that teachers are more accessible to their students.

26 That regular contact between students, home tutors, and teachers be provided for through camp schools, teacher visits to students and student visits to schools.

27 That sufficient funds be allocated to make possible regular visits by itinerant teachers to individuals and groups of students, and that those teachers

- be persons who have at least two years previous teaching experience;
- have appropriate training in remedial education; and
- have appropriate skills to be able to advise home tutors.

28 That the most appropriate form of transport, road or air, be used by itinerant teachers. Where vehicles are supplied they should be suitable for local conditions and be regularly maintained.

29 That investigations be undertaken to determine the feasibility, in the longer term, of replacing the itinerant teacher service with systems whereby correspondence school and/or school-of-the-air teachers visit their pupils on a regular basis.

COMMUNICATIONS TECHNOLOGY

30 That, where practicable, distance education make full use of new technology as an integral part of the system rather than as a supplement to it.

In particular that:

- top priority be given to good quality interactive audio systems;
- teleconferencing facilities be employed, especially in secondary education where group discussions serve an important educational function;
- subjects which can be more readily presented through audio-visual media (for example Music, foreign languages, Science) be given priority;
- video libraries be set up to supplement the existing Loan Video Program; and

. the feasibility of electronic mail be explored as a means of speeding up the turn-around of student work.

31 That the Commonwealth government lease satellite capacity from AUSSAT to be shared among the states as a national communications system for distance education, and that the individual states and the Northern Territory be responsible for operational access to the satellite, program software, and the use of the system for educational purposes.

32 That the Education Departments in each state and the Northern Territory appoint educational technologists with specific responsibility for the development and application of communications principles and technology to distance education.

33 That it be recognized that the introduction of new technology will make necessary some modifications to curriculum.

34 That the Commonwealth government take a coordinating role in the application of technology through the Advisory Committee on Educational Use of Communications Technology.

The Committee should:

. advise educators on the capabilities, the costs, and the economic life expectancy of equipment for the new technology; and

. establish national guidelines so that all states and the Northern Territory can develop compatible systems.

RESEARCH AND DEVELOPMENT

35 That a national conference on distance education be held at regular intervals of not less than two years, but not more than four years.

36 That the education of children who have studied through distance education systems be evaluated to provide advice on future directions for distance education.

PART I

Producing and Using Curriculum Materials

Setting the Scene

MARLENE SHEPPARD*

There is probably no better starting point than the starting point for the Commission of Enquiry into Poverty with the adoption of the ...

> belief that all people, irrespective of where they live or how they live, should have an equal right to education ... the basic right of people in a democratic society.

EDUCATION FOR RURAL AUSTRALIA

In Australia, as much as in any Western country, assumptions taken on the educational implications for a rural environment are often mythological if not fallacious; full of stereotypes and evidence the danger of making too many assumptions at all. And yet there are differences between the educational needs of rural dwellers and urban dwellers which have excited the interest of, if not brought solutions from, some educators. Against the constant criticism levelled at education systems for the universality of approach taken to solving all educational problems, one must question the validity of continuing to look at providing services for rural children on the basis of what is good in cities. Again, pitched against this thinking, is the isolated rural communities' demand that what they see as equal education will be provided for all children and their requests, usually for an upgraded traditional (or urban) education, are often more clearly articulated than those of urban dwellers. Their demands are geared towards a more urbanised education, often with the argument that, in view of future trends in the rural economy, their children need a preparation for a possible choice of urban life.

Thus a new dilemma presents itself: will this very education draw the children away from rural areas? Although some say that education opens new horizons for country children and lures them away, the answers to these questions in reality are not educational answers - they are based on economics and family aspirations.

---

* Marlene Sheppard is the Inspector responsible for Distance Education in the New South Wales Department of Education. She was involved in the New South Wales Education Commission Task Force, 'Review of Education for Rural Areas'.

THE QUALITY 'RURAL'

Again, in considering the view of rural education against an historical background of what is claimed to be an urbanised approach, one must ask where the differences or difficulties lie. Is it that there is a unique nature or a quality known as 'rural' or does simply distance from central services delineate its character. We can possibly compensate for the latter through improved delivery mechanisms but it is not appropriate to seek to compensate, as such, for the former. Given that it is popular to contrast urban and rural communities, probably because they appear to be so 'contrastable', or lend themselves to such an exercise, one must ask if there are other groups or even sub-groups for which education systems also hold a charter to teach which, when focussed, present similar arrays of difference. In a multicultural society, such as that of the city of Sydney, is it possible that differences between unique cultures are more bizarre than those between rural and urban white, Caucasian Australians? Such cultural differences may be more significant than the geographic and demographic factors affecting rural education and making the need for it to be 'different'.

It is recognised that although education managers must take a systems approach to developing appropriate procedures for catering for community and cultural differences in children, most are aware that a number of teachers has always intuitively and thoughtfully bridged gaps for children, maintaining relevance and meaning in curriculum for the children they teach, wherever they live and whatever their nature, through a process of adaptation, selection and presentation.

In a declining rural economy, the catchcry or mecca of the new group seeking out rural living is a tangible/intangible, the 'way of life'. These people enrol in courses in agriculture and I trust they want to learn more than how to bonsai marihuana plants. The reason many already employed in rural areas refuse to leave, even in times of financial stringency, also attaches to 'way of life'. Many people are willing to make significant material sacrifices in order to achieve the rural way of life. They measure the value in other than economic terms. Despite this, Australia is often said to have the most rural population and the lowest retention rate.

'Rural' then may be seen as a quality more than a place and it does not necessarily, therefore, represent significant geographical isolation. If rural education were seen only to possess characteristics related to geographical isolation it could then be examined in terms of identified specifics and the problems compared with those affecting the education of all children who are isolated from schooling, such as for medical or other reasons. With fewer than half of the number of children at the New South Wales Central Correspondence School enrolled because of geographical isolation, clearly not only rural dwellers must be educated other than in conventional urban schools.

'Rural' is a quality, an entity possessing its own unique characteristics and which presents challenges to education systems other than those attached merely to its isolation from urbanised society. Regions in the Hawkesbury basin, one hour's drive from Sydney, may be just as 'rural' in nature as the most geographically isolated areas. Although 'rural' is

accepted as a quality, there would be debate on whether there exists a positive entity known as 'rural education' *per se*, even although we recognise that departments of education must seek to provide appropriate education for all children, whatever their environment.

The dilemma for a system then is 'another kind of education' or 'more efficient delivery of the present (or urban) offering'. At this point the provider must think of resource allocation and the realities of seeking to deliver the best possible education for all children within those constraints. In recent years in New South Wales there has been considerable development both in broadening the educational provision for rural isolated children and in catering for children with special needs. Matters such as the staffing of isolated schools have been the subject of review, with some initiatives which have received positive response from local communities.

THE MODES OF RURAL EDUCATION

Government education systems must also be aware that they will continue to deliver their services to children in isolated rural areas employing basically two main modes: schoolroom centred and 'distance education' teaching, the latter describing that mode in which the student and the educator are separated by distance. There are three basic modes within New South Wales distance education itself: The School of the Air, the Central Correspondence School (Sydney) and Decentralised Correspondence Centres (in western areas of the state). Within each of these a variety of modes is or will be offered in the future. For example, advances in telecommunications will offer additional communications and delivery systems and it has been projected that by 1990 both rural and urban sectors of society will be insisting on access to the educational benefits of new information technologies.

EDUCATION IN ISOLATION

Although only 40 per cent of pupils in our Central Correspondence School are geographically isolated (others largely being medically or travelling isolated), for this conference the more useful focus is on the 'rural isolated'.

Under the auspices of the New South Wales Education Commission, an extensive Review of Education for Rural Areas has been undertaken. Over seven hundred submissions have been presented with four thousand proposals.

It appears from the submissions that with respect to isolation there are five dimensions or intensities of interaction.

These may not necessarily be present in all countries where humans live in isolation but they certainly may be identified in our situation and have presented one of the most thought provoking aspects of the Review in my respect:

> 'To be isolated is to be separated. Effort is required either to accept the limitations of one's location and/or to relate to those from whom one is separated.

Separation has at least two aspects to it; the degree of separation, and relationships between separated parts ... Relationships between separated parts form a set of dimensions comprising varying intensities. Each of the following five dimensions, or intensities, of interaction have been found among submissions. They are listed in increasing intensity:

(1) Anticipation (expectation). Isolated parties (schools, communities, students, teachers, parents) expect to receive something from those from whom they are separated. Minimally this is recognition of their right to equitable resource distribution; sufficient at least to provide equal access to those educational experiences which may reasonably be provided for all students; and equal opportunity to compete for careers as an outcome of schooling;

(2) Extension. Isolated parties desire opportunities for sharing with others not only what they can achieve that is similar to, and what is different from, what others do, but what is unique to them;

(3) Interaction. Isolated parties seek a range of interactions - social, cultural, competitive - for a wide range of reasons;

(4) Association. Isolated parties seek recognition of their complementing, supplementing, and completing roles. They may not need to be physically present with those from whom they are separated to fulfil such roles; and

(5) Evaluation. Isolated parties draw on the various relationships above to assess their authentic identity. This may emerge through one dimension more than through others. Competition, association, receiving, sharing are all involved in greater or lesser degrees.'

First, one must apologise for introducing some jargon into the paper. It is employed to clarify the issues for us ... and remember 'there are theories at the bottom of the jargon'.

It is at once interesting to note the similarities of outcomes of isolation for both rural isolated schools and distance education mode learners, as indicated in the Review.

This awareness by isolated groups lays certain emphases:

'(1) Perceived assumptions about differences;

(2) Resource differences;

(3) Career opportunity differences; and

(4) The desirability of rural-urban exchanges'.

Some issues which may be drawn from the discussion are the following:

- the stereotype/myth that rural is so 'different' in an educational perspective;
- the homogeneity of need - basic needs in (of) education not basic needs of 'rural';
- the underlying need/request for 'equal to urban' - at least equal resource provision for equal opportunities; and
- the old quote, 'will these very educational opportunities bring them away to the cities?'.

Much also was written on disadvantage: isolation is the fact, disadvantage may be an outcome of that isolation.

COMMUNICATIONS TECHNOLOGIES AND ISOLATION

The dimensions of isolation are all about *communication* and now for the first time in history we are on the brink of being able to assist in overcoming those needs through the new communications technologies - but not just by communicating 'to'.

Steve Senyk, a Canadian distance education administrator, reminds teachers that their first primary function is close personal interaction. What the rural isolated people are asking for is two-way communication. The very etymology of the word media indicates that they are instruments of linking and hence bringing people closer together.

The Director-General of UNESCO, Amadou-Mahtar M'Bow, said in March this year, 'a better balance should be struck between those who produce and those who have no choice but to receive them' (the communication technologies).

APPROPRIATE USE OF TECHNOLOGY

I must not, though tempted, move too far into technology at this stage but it must be stressed that it is essential for us to choose the appropriate technology for the job in hand.

As Richard Butler, Secretary-General of the International Telecommunications Union and Co-ordinator of this World Communications Year, has said, 'the very rapid rate of advance in communications technologies and the bewilderingly wide variety of systems available, not all of which are compatible with each other, makes selection of the type of technology to be adopted extremely difficult'.

With technology a medium of education, it must complement, *lest it compete*, with schooling and remove the monopoly the educational system has held over education. A reciprocal relationship is thus emerging between technology as it becomes a subject to be taught - and a major contributor to curriculum extension and lifelong education within systems which are recognised as educational systems *per se*.

The Loan Video Scheme, recently implemented, presents an opportunity to extend curriculum offerings, gives us a taste of things to come. The birth traumas of the scheme made one realise that in technology there has been too much emphasis on the infra-structure, the hardware, when education goes on in the software. The four program sub-groups adopted by our Department had to display some balance in planning between pedagogy (curriculum developed) and androgogy (learner choosing content).

One wonders how developments such as these, introduced through distance education provision, will assist those families in a new trend developing in some urban areas where parents are choosing to teach their children at home. At present rates of growth, says John Holt, a popular author in education in the United States, in ONE generation 5 to 10 per cent of families in the U.S.A. will choose to teach their own children!

In Phi Delta Kappan of February, 1983 John Holt postulates one agreeable theory that district schools in many ways may assist in the education of such children. Such a concept of district schools assisting isolated learners may be observed in New South Wales with the Decentralised Correspondence Centres, attached to large rural schools and serving the geographical area within reasonable travelling distance from the Centre. These are staffed by selected teachers who liaise with parents/supervisors when they and pupils come to visit the Centre.

THE CURRICULUM AND DISTANCE EDUCATION

The curriculum of a school never stands alone, it is a framework for learning management.

It is a comfort that we never 'distance teach' a pupil but a family, encouraging often the best possible in the circumstances, even when the most stress evoking, education.

This involvement of parents presents the perfect environment for community involvement in curriculum development hopefully diminishing present cries for the establishment of relevance in the curriculum. The continuity of educational experience may largely be preserved for isolated children by local input into curriculum.

Remember that Justice Kirby in New South Wales says, 'Israel is the only other country with more diversity of cultures than Australia'. Just think - if all families in a community were as intimately involved in their children's learning as in distance education - how far ahead we could be in developing relevant curriculum, employing community resources.

Teachers themselves say that it is not easy to separate distance education curriculum from other experiences. This presents a lively dilemma for course production writers! It is also true that where the standard of curriculum is poor for distance education, the implications are likely to be more profound than in a large urban school, where other factors may come into play to preserve the child in the learning environment.

Course production is seen as presenting an extremely vital area of distance education and many wider system inputs are planned in our state. All secondary subject departments, for example, are represented on state syllabus committees in New South Wales.

The interdependence of small isolated rural schools and their community was emphasised by Edward Edmonds and Marlene Sheppard in a comparative study of small rural schools in Canada and New South Wales. It was found that even aspects of the curriculum seen to be core curriculum, may be community dependent. In New South Wales, recent curriculum policy development has required schools to involve parents - with very encouraging outcomes.

SHARING SYSTEM RESOURCES OVER DISTANCE

Resource provision is easier when you have a wedding cake, not a cup cake. When resources are scarce, everybody wants them.

If *equality of opportunity* is seen as being the same as *equal provision* then education in rural isolated areas will inevitably suffer: the cost of providing the same facilities for distance education becomes almost prohibitive. In New South Wales the cost is two and one half times as much in primary to educate a pupil by distance education and for secondary, four times the cost.

There have been many problems for all of us but remembering the quote to commence this paper, it must be done!

DELIVERING EDUCATION SERVICES OVER DISTANCE

One must accede to the truth of the statements that education has often tended to offer rural communities an urban-styled education. It is not accepted that there should be one education for urban Australians and another (different) education for rural Australians. We must deliver education for isolated Australians, who properly demand that their provision should allow them to take their place anywhere in Australia.

It is not so much that we want a different education in distance education but that there should be no relinquishing of standards in what we deliver, as an educational offering, to isolated people. With regard to 'difference', education should reflect the flavour of any community and therefore where appropriate, the rural community (that illusive term, 'rurality'), but which rural community? This paper is offered on the premise that certain rural communities may differ from each other in our country/state to the same extent as may rural and certain urban communities.

Distance education uniquely demands a particular kind of commitment and involvement by parents and frequently the quality of their support is the quantifier of success for their children within that mode.

Educators will always be faced with the dilemma of 'developmental' or 'radical' change; responding to expressed need or responding to others' ideas. Developmental change is the desirable direction for distance education and it appears to be what the rural community is asking for. It is time again to review priorities and in close cohesion with the rural community, to continue to upgrade the offering. Most times the leadership for change will need to be in the hands of the educator, based upon accepted educational values and planning. The rural community is quick to sense what is the best offering for its children and its history is one of co-operating in development, rather than demanding radical change.

Distance Education and the Curriculum

BRIAN GAINES*

INTRODUCTION

When, in 1981, I was appointed to the position of Superintendent of Distance Education, my first concern was the integration of services to provide a K-12 program located at one site to be knows as the Distance Education Centre. The next priority was to establish the adequacy and extend the range of courses offered. It was the concern with this problem which established in my mind the need to meet with representatives of other distance education systems to determine:

(a) the relevance of the Western Australian curriculum problem to other systems;

(b) strategies to direct scarce resources to distance education; and

(c) to examine the prospect of pooling resources to expand the range of subject choices throughout all state systems.

From informal discussions I have had with representatives of other systems I suspect that we have a mutual problem. The purpose of this paper is to identify some of the major issues that are associated with the provision of a range of high quality curricula suitable for students studying in the distance education mode.

BACKGROUND

In Western Australia there are some particular and historical reasons for the lag between curriculum change and the provision of suitable courses for distance education. Ours is a centralised system and syllabus changes are adopted in all schools following the publication of documents and the supply of learning resources by the Education Department. The history of educational innovation in this state helps to explain why the Correspondence School's role has changed.

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In the immediate pre-World War II period six hundred small rural schools were using some form of correspondence courses. Students without access to country secondary education and who could not afford boarding school fees turned to the Correspondence School to continue their secondary studies. In the post-war period, commencing in the 1950s, this dependence on the Correspondence School diminished as a network of district high schools was established. Instead of five rural high schools at major centres there are now (1983) fifty-six district high schools offering a lower-secondary education. Thirty-five rural schools have correspondence students on site.

In 1972 there was a change of direction in lower-secondary education. The Achievement Certificate replaced the Junior Certificate. The syllabus for the external examinations of the superseded Junior Certificate had been catered for quite adequately in correspondence courses. The Achievement Certificate is not subject to external exaimination and courses are offered at various levels of achievement. The freedom and flexibility it made possible created new challenges for correspondence courses which still have not been met completely.

At the same time as the Correspondence School was trying to cope with these changes, the Education Department took the bold initiative of offering upper school or Tertiary Admission Examination (TAE) subjects by correspondence. Demand for the courses mushroomed and resources were directed to this new Isolated Students' Matriculation Scheme. That scheme is now incorporated in the Distance Education Centre.

Correspondence education took on other new challenges, including pre-primary education. There have been major changes in syllabuses affecting language, Mathematics, Social Studies (K-10), and requirements for the TAE have been revised.

The net result of these accumulating changes has been that, within the Distance Education Centre, the demand for curriculum writers has exceeded the supply of funds and personnel.

A VIEWPOINT

I take the position that distance education students are entitled to access to the widest possible range of learning experiences. If the expressions of equal educational opportunity for the isolated are genuine,curriculum should include the subject choices that are available in schools.

Priority in deciding course reviews and additions has been to meet the demands of the core subjects, or the 'basics', and the popular TAE subjects.

The curriculum range has not been extended to provide opportunities for the study of such subjects as Music, languages, Agriculture, business education and options which pursue lines of personal interest. To limit choices inhibits the development of the student in areas where there may be the potential for true interest and achievement.

Within the system, particularly at the primary level and involving schools of the air, there have been school-based attempts to offer compensatory programs where correspondence material has not been printed or structured. Individual efforts can be time-consuming and lack the quality controls required to make effective courses.

To be avoided are a series of 'Mickey Mouse' courses that cannot provide the satisfaction by attainment through persistent endeavour.

If the scope of the courses can be widened, some subjects may also find acceptance in the school system where, through a lack of experienced staff, they are not included in the curriculum. It is of interest to note that in New Zealand 85 per cent of the secondary schools receive some subject support for special groups through the correspondence school system.

The investment of time, staff and resources in expanding the Western Australian curriculum range would benefit the general school system and, in particular, the small rural secondary schools and the isolated students.

Apart from the limited range of offerings in the affective education domain, there exists in my mind concern for the very able and the very restricted students. These edges of the system pose problems in the schools and for individuals. Learning packages to suit special needs would have a dual application in the school system and the Distance Education Centre.

It is of concern to note the amount of individual teacher effort that has to be repeated in numerous situations to provide rather inexpert programs for local special need groups.

SYLLABUS CHANGE

For a number of reasons there will be continuing adjustments to syllabus documents.

Included in the pressures for change are:

. new philosophies

. new information

. new learning theories

. changing employer demands

. overseas thrusts

. reaction to public or political opinions

. dissatisfaction with general course content.

While Western Australia maintains the status and direction of central syllabus documents, distance education will endeavour to maintain compatibility with experiences in the school system. This is particul-

arly relevant to the number of students who are short-term enrolments (approximately 50 per cent) and who move in and out of the distance education mode because of the work or travel commitments of their parents.

The merits of central syllabus versus school-based syllabus have been debated often. The belief that some uniformity throughout the state best guarantees equality of educational opportunity usually carries the argument. The licence offered to schools to experiment with school-based curricula has, with a few notable exceptions, lapsed through lack of real interest or application.

I believe distance education will continue to respond to syllabus change. It will require a number of strategies to cope with these demands.

OPTIONS

It is essential that distance education representatives be included in syllabus review committees. There are two advantages which will accrue:

1 The service can be alerted to possible changes and organise the demand for resources accordingly, and

2 the system can be aware of the effect of change on the correspondence system.

In New Zealand the correspondence school is the pilot school for curriculum development. Perhaps in Western Australia also the Distance Education Centre could be one of the agencies to gauge the effect of initiatives stemming from syllabus decision groups.

It is essential also that distance education does not reach a situation whereby the maintenance bill for courses becomes alarmingly high and makes apparently distorted demands for a slice of the education budget. If there is a predetermined number of writers allocated to distance education, priority decisions can be planned on a timeline to suit predictions relevant to future course needs. The present Western Australian system of recruiting a new writer or two each year is undesirable and vital gaps in the system are not being closed. I am confident that the system of recruitment, placement, training and duties of writers will be reviewed following the interchange of information at this workshop.

Another evident option in maintaining the currency of curriculum is the use of alternative materials that are not written locally. In some situations, and depending on the maturity of the learners, a standard text or source material can be adopted for use by correspondence students. There are limits to this approach, as most primary home supervisors will be quick to identify.

There will, I hope, be the option of locating national sources to develop the local offering through a system of purchase or barter. A *quid pro quo* approach could allow the concentration of resources on one theme rather than the rediscovery of the wheel in six or seven systems. The presence at this National Workshop of a representative from the New

Zealand distance education system reinforces my view that our students will be the beneficiaries of a well planned system of interchange of lesson materials. The New Zealand Home Economic and Woodwork courses were an excellent starting point for similar courses now developed in Western Australia.

Communication technology offers a wider choice of delivery systems to bring ideas, lessons and experiences to students. The tape recorder is now old hat but it is a highly valued aid. The Loan Video Program has presented general educational programs to a wide and dispersed audience of isolated students. A challenge is to develop programs focussed on the curriculum as well as those of general interest. If discrete distance education material is produced there will be increased and competing demands for writers or presenters. The question of broadcast time for remote students and the comparable benefits of a circuit system to distribute programs will no doubt be widely discussed in group sessions. I am sure that a number of recommendations will be included in the workshop reports.

Each state has decided on a number of communication trials and the sharing of reactions and results should provide a number of alternative delivery systems for the distance education curriculum. The problem remains to gain recognition from political and education decision makers that the inherent costs are justified to service a number of disadvantaged students.

I am sure the inclusion of representatives from the ICPA at this workshop will ensure that there will be a continuing political awareness of the support required to upgrade distance education services throughout the Commonwealth.

USING THE CURRICULUM

Our partners in distance education are the parent supervisors. When launching forth to write new materials or adapt existing material the function of the supervisor must be carefully considered. The first consideration is that the material must be carefully sequenced and accompanied by clear instructions for the supervisors as well as the students. The activities must be relevant and the time span not overloaded. It must allow some flexibility to meet evident individual capacities.

When adapted or replacement programs are used to meet curriculum needs, communication channels must be kept open so that the intention and purpose of the changes are clearly understood.

Our service has set a high priority on personal contact with parents through regional school of the air and central Distance Education Centre seminars. Support for students and supervisors is also available from itinerant teachers and the tutor home visiting programs. They are high cost exercises, but they are justified by the student return rates and the reinforcement available to supervisors.

It is essential that communication lines be kept open between course writers and the teachers who will implement the courses. The recent

success of new lower secondary options of Home Science and Industrial Arts highlights the advantage of writing and trialling concurrently to tune the material to meet the limitations imposed by the home environment.

CONCLUSION

Distance education has played a vital role in bringing educational opportunity to thousands of students in Western Australia who have not had reasonable access to rural schools. As the school system has expanded in rural areas, the role of the correspondence school has changed significantly. Since the 1950s the number of geographically isolated students has diminished in the Years K-10, but there still remains a clearly indentifiable group who can be serviced only by the traditional correspondence system.

An emerging role for distance education is the capacity to provide an enriched curriculum through varied communication modes for school-based groups and the increasing number of young adults who had dropped out of the system early and are returning for a second chance.

To be able to develop a curriculum which will provide a complete academic course and subjects which meet an extended range of student interests and life needs, distance education will require a suitable allocation of resources.

We share a common goal to provide a quality curriculum for all students without denying them the essential experiences which are available in a well-developed, traditional school program. Our task is to identify needs, plan strategies to meet the needs, examine our capacity to share scarce resources and ably represent our case when education budgets are being planned at both state and federal levels.

Producing Distance Education Curriculum Materials in Queensland

DES EASTMENT*

Queensland has experienced growth in the practice and in the perception of distance education in the last five or six years which has affected both those learners who cannot attend a school or centre and those who attend schools in the more isolated rural areas.

TOWARDS A MORE BROADLY BASED MODEL

One of the most significant practical trends has been the shift towards a more broadly based model of curriculum design production and delivery in distance education as shown by:

- continued improvement in the quality, variety, and flexibility of use of learning experiences on offer through correspondence programs (pre-school, primary, special, secondary, technical and further education) and school of the air broadcast sessions (mainly primary).

- the extended range of services provided by Commonwealth Schools Commission funds through the Priority Country Area Program (PCAP), for example Itinerant Teacher Service, Mobile Manual Arts Unit, Mobile Field Study Unit, Instrumental Music Programs, Remedial Teaching Services, Mobile Classroom, and Loan Video for isolated schools, to name a few.

- major impact of the Itinerant Teacher Scheme (PCAP and departmental) through home visits, activity days, mini-schools, mobile schools, and camp schools. The personal interaction and reassurance offered to both learners and home tutors plus the peer group contact and classroom experience gained are filling a definite need.

- improved use of existing technology such as radio, television, audio cassettes, slides, video cassettes, telephone contact and teleconferencing in both home and school settings (for example contact teachers and the Inwat system) is improving delivery of curriculum and

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immediacy of contact and feedback for correspondence teachers, home tutors and students acceptance of the *team* concept as distinct from the 'support service' concept by the various sections offering complementary and supplementary services to the isolated primary pupil. These services are provided by: the home tutor, the Primary Correspondence School, three schools of the air (Cairns, Mt Isa, Charleville), itinerant teachers and contact teachers (including mini-schools and mobile classrooms) and, for pupils with special needs, the Isolated Children's Special Education Unit. There is greater awareness of the home tutor role in the team both as tutor and as manager in ensuring balance and reduction of 'overload'. Clarification of roles and co-ordination of effort needs to be an on-going, joint activity as adjustments and improvements are effected.

A CONCEPT OF TOTAL CURRICULUM

Supporting these practical thrusts, there has been on-going development of a concept of total curriculum in distance education. To ensure continuity of progress and development within the learner, the production of curriculum experiences and materials must reflect appropriate developmental differences and extend characteristic ways of learning across the age range 4 to 15 years and beyond in at least three dimensions.

1 Continuity of experiences from one year level to the next to ensure educational progress, for example in curriculum content - programs, materials and resources, whether produced by correspondence schools and production units, schools of the air or individual teachers, must be challenging, consistent, cumulative and sequentially developed.

2 Continuity of experiences within the yearly program to extend characteristic ways of learning, for example the production and integration of a range of complementary and supplementary experiences and materials across a number of service agencies to cater for a wide range of individual development (both pupil and home tutor) requires acceptance of a team concept as distinct from a support service concept.

3 Continuity between home environment, community life, curriculum offerings and educational agencies to promote self-confidence and a sense of relevance and motivation (in students and home tutors), for example the production and delivery of flexible and adaptable programs must meet the strongly felt need for regular personal reassurance on standards and methods, recognition of problems and immediacy of contact with a team teacher (for example by telephone or radio) to give rapid feedback, help and motivation as required. There is also a strongly felt need for peer group contact (for example in mini-schools and mobile classrooms).

I believe it helps to highlight the major issues relating to the provision of services and to the production of programs, materials and resources if we consider total curriculum in terms of two major elements:

1. The Common Curriculum Content Areas

Correspondence schools and production units, schools of the air and individual teachers (itinerant and other) produce and deliver programs, lessons, materials and resources for students and instructional advice for home tutors.

2. The Personalised, Individual (and Group) Needs Areas

- Provision of a degree of *personal interaction* with a team teacher and reassurances and help on standards and methods (for students and for home tutors), for example Extension School Campus, school of the air, itinerant teachers, correspondence teachers.

- Provision of a degree of *immediacy of contact* (for example by telephone or radio) to give rapid help, feedback and motivation as required (for students and for home tutors), for example school of the air, pre-school, Isolated Children's Special Education Unit, contact teachers.

- Provision of a degree of *peer group contact* for students and for home tutors, for example activity days, camp schools, mini-schools, mobile classrooms, Span Playgroups.

Producing curriculum materials and services which provide continuity and balance in both the common curriculum content areas and the personalised, individual (and group) need areas is the major challenge for the state system.

PRODUCTION OF INSTRUCTION PAPERS (PRIMARY)

Programs at all year levels are in accord with the Curriculum Guidelines published by the Queensland Education Department.

There are thirty-six instruction papers in each of Mathematics, Language Arts and Social Studies at each year level (Science and Art papers are available to those families who request them). Methods and models of instruction for home tutors are included in almost all papers. All instructional materials are supplied including writing paper and exercise books, cassette teaching tapes, readers, library books, audio tapes (and video tapes for those on the Loan Video Scheme).

New programs must be prepared when there is a change in the departmental syllabus.

Before new course material is prepared or major changes undertaken, departmental approval must be given, finance made available and staff adjustments made so that writers and artists will be available. Smaller adjustments are made to courses in an on-going manner year by year.

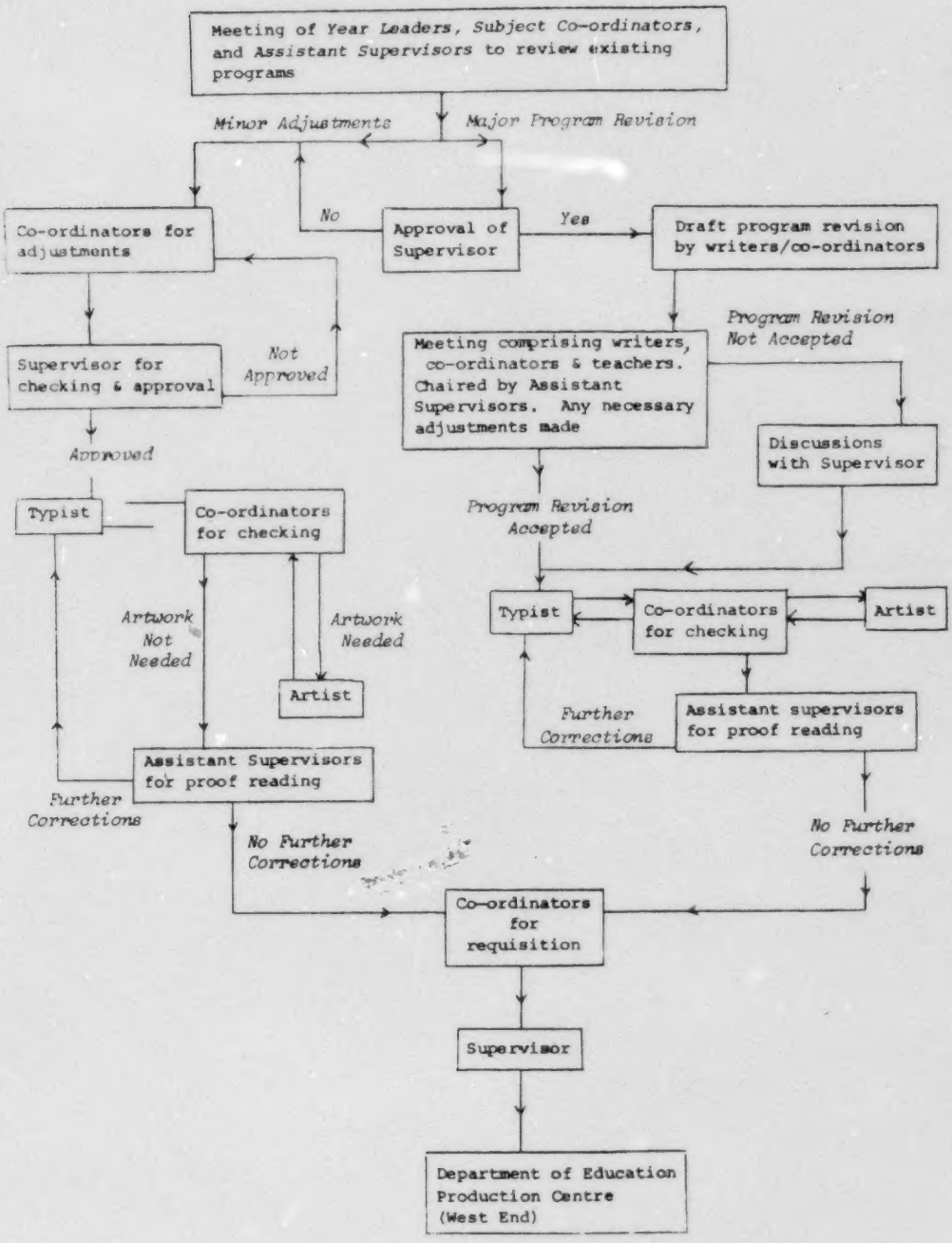
On-going assessment of the need to make changes in papers is made using findings from research data, comments and feedback from parents and teachers (marking teachers, school-of-the-air teachers and itinerant teachers) on the difficulty level or value of present materials.

PRODUCTION OF CORRESPONDENCE MATERIALS

The production of a high quality correspondence course involves the following processes. On-going procedures for meetings, negotiations and checking of progress involving administrators, teachers, writers, co-ordinators, artists and producers are necessary.

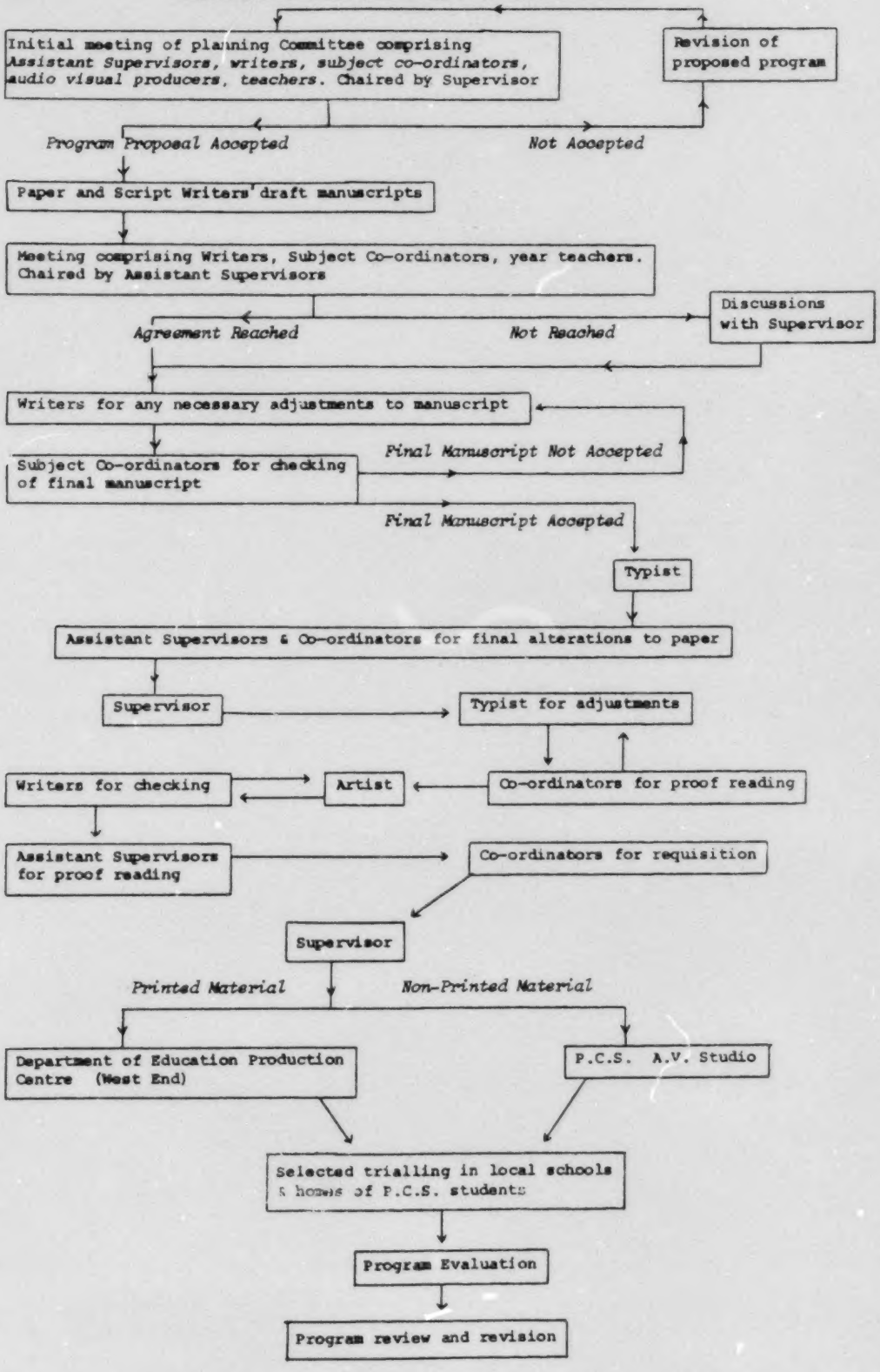
PROGRAM REVIEW AND REVISION

QUEENSLAND PRIMARY CORRESPONDENCE SCHOOL



NEW PROGRAMS

QUEENSLAND PRIMARY CORRESPONDENCE SCHOOL


Initial meeting of planning Committee comprising Assistant Supervisors, writers, subject co-ordinators, audio visual producers, teachers. Chaired by Supervisor
Revision of proposed program
Program Proposal Accepted
Not Accepted
Paper and Script Writers' draft manuscripts
Meeting comprising Writers, Subject Co-ordinators, year teachers. Chaired by Assistant Supervisors
Discussions with Supervisor
Agreement Reached
Not Reached
Writers for any necessary adjustments to manuscript
Subject Co-ordinators for checking of final manuscript
Final Manuscript Not Accepted
Final Manuscript Accepted
Typist
Assistant Supervisors & Co-ordinators for final alterations to paper
Supervisor
Typist for adjustments
Writers for checking
Artist
Co-ordinators for proof reading
Assistant Supervisors for proof reading
Co-ordinators for requisition
Supervisor
Printed Material
Non-Printed Material
Department of Education Production Centre (West End)
P.C.S. A.V. Studio
Selected trialling in local schools & homes of P.C.S. students
Program Evaluation
Program review and revision

Decision	-	supervisor, assistant supervisors, subject co-ordinators, year leaders (and curriculum consultants)
Guidelines	-	as above plus paper writers, script writers, audio-visual producer, year-level teachers
Detailed planning	-	subject co-ordinators, paper writers, script writers, audio-visual producer, artists, year-level teachers
Research	-	paper writers, script writers, teacher librarian
Writing	-	(draft manuscript) paper writers, script writers
Reviewing	-	assistant supervisors, subject co-ordinators, year-level teachers, writers
Re-writing	-	(second draft manuscript) paper writers, script writers
Checking	-	(content) subject co-ordinators
Lay-out Design	-	subject co-ordinators, artists, writers, typists, audio-visual producer
Proof-reading	-	assistant supervisors, subject co-ordinators, writers, year leaders and year-level teachers
Trialling	-	selected primary correspondence school families and schools
Production	-	printing - combined Production Centre, West End audio and video tapes (a) Primary Correspondence School Audio Visual Studio (b) Production Services Branch
Review	-	consideration of feedback and advice from parents, Primary Correspondence School teachers, school of the air teachers, itinerant teachers and other internal and external sources
Revision	-	on-going changes and improvements to papers and audio-visual material are made year by year.

PRODUCTION OF PRINT MATERIAL

In 1980 the Primary Correspondence School, Secondary Correspondence School and the Technical and Further Education Correspondence Section were relocated in the one building at Montague Road, West End. This has led to closer co-operation and rationalisation of production services.

In the last two years the previously separate printing facilities of these three sections have been amalgamated into one printing unit - the

Department of Education Production Centre (West End). This has resulted in considerable improvement in efficiency, quality and capacity of operations and economics of scale.

- Old worn out and inefficient equipment in the smaller sections has been replaced by modern large scale printing and photographic equipment -

  3 Xerox 9500 high speed document reproduction equipment

  9 Off-set printing machines (2 with colour-head)

  5 Large-scale collating machines

  3 Bruning Electrostatic Copiers

  2 Plate makers

- Present output is 700,000 impressions (350,000 sheets printed on each side) per week rising to 1,000,000 impressions (500,000 sheets) by the end of 1983 as work for other Education Department sections and colleges is undertaken.

- A tradesman printer is engaged and high level supervision is possible for all processes involved. A staff of 24 operates the unit.

A separate printing facility is maintained by the Isolated Children's Special Education Unit which produces highly individualised programs.

PRODUCTION SERVICES BRANCH (AUDIO—VISUAL)

Audio-visual materials in support of distance education are developed by this branch in consultation with other sections:

Materials for Correspondence/School of the Air Pupils

- 'On Parade' is a magazine audio tape program.

- Home tutor tapes - six 30-minute video tapes to help improve the effectiveness of home tutors.

- Home Loan Video Scheme - for pupils enrolled with school of the air - provision and servicing of equipment and recording and distribution of taped ABC school TV programs with documentation and teaching notes.

Materials for Teachers and Students in Small Isolated Schools

- Loan Video Scheme - provision and servicing of equipment and recording and distribution of taped ABC school and TV programs with documentation and teaching notes.

- Science Series - 15 half-hour video programs and support materials to advance science teaching and processes.

- 'The Club' - a magazine video program for teacher development.

CURRENT INITIATIVES

- An audio-visual studio has been constructed at the Primary Correspondence School and an audio-visual producer appointed. A start has been made on producing video tapes covering selected aspects from the instruction papers and giving demonstration lessons and advice for home tutors.

- An Apple II microcomputer with additional disc drives and a print-out facility has been installed at the Primary Correspondence School. On present indications, many homes will acquire microcomputers over the next few years and use of these for drill and practice exercises as well as the more challenging problem-solving and simulation exercises has considerable potential in distance education as has their use for information networking via telephone or satellite linkage. The Primary Correspondence School microcomputer will be used to prepare teachers, writers and programs in anticipation of an early integration of this mode of learning into distance education programs. The computer will also be useful to course planners and writers in analysing and structuring course content. Teachers and administrators will also find it useful in collating and analysing information on individual pupils and their progress.

- Telephone conferencing and telephone contact is being more widely used.

  - Extension School Campus - under trial at Hughenden and Cunnamulla secondary departments and Newlands state schools for curriculum delivery to small secondary sections.

  - Teacher librarians in fourteen regional centres throughout the state have engaged in a series of teleconferences on professional development this year including pre-conference reading and discussion of audio tapes.

  - A series of teleconferences has been arranged by the Supervisor, Bardon Professional Development Centre, for newly appointed principals of schools in remote areas as a form of additional professional support. There are five groups of principals with four principals in each group. Sessions last for thirty to forty minutes and each group will have three conferences. The anticipated cost is $1,500.

- The Secondary Correspondence School is considering the implementation of electronic mail using computer-based data phones for delivering curriculum materials to small secondary sections in isolated areas (for example Extension School Campus concept). Facsimile transmission is another method of delivery to be pursued.

CURRENT CONCERNS

1 Current copyright provisions continue to hamper production of curriculum materials, especially in the areas of music and art.

2 Quality staff with writing and audio-visual production skills as well as teaching experience continue to be required for the production of new curriculum materials.

3 Clarification of roles and co-ordination of services must be on-going as new developments create the need for adjustment. This is particularly important where a *team* approach is being emphasised however geographical distance and the press of other priorities on funds limit opportunity for face-to-face discussion. Other alternatives need considerable development.

4 Improvement of immediacy of contact and feedback between the marking teacher and pupil/home tutor using telephone, radio and/or newer technologies must have very high priority.

5 Extension of regular voice contact/lessons from the present 700 school of the air pupils to some or all of the remaining 1,000 Primary Correspondence School pupils would require major planning and funding initiatives and decisions on directions and priorities in a number of areas.

(1) New communications technologies and information networking may make it feasible to offer a higher level of service (in some respects) from a central point in Brisbane - this would allow immediacy and regularity of voice contact for marking teachers and access to large resource banks for pupils. School of the air bases and itinerant teachers might continue (with some adjustment to their role) as at present.

(2) Alternatives to this would include:

(a) a combination of centralised and decentralised services for voice contact and marking and perhaps one or two more rural bases added to the network.

(b) expansion of existing three school of the air bases with or without a base in Brisbane and with or without local marking of papers and production of materials.

Producing Distance Education Curriculum Materials in the Northern Territory

NORMAN F. BOWMAN*

ACKNOWLEDGEMENT

This paper relies heavily on material supplied by the principals of Alice Springs School of the Air, Katherine School of the Air and the Secondary Correspondence School. Their co-operation is gratefully acknowledged. Responsibility for the structure and overall content of the paper rests with the author.

BACKGROUND INFORMATION

Historical Background

In 1946 Ms Adelaide Miethke, a school inspector on a visit to Alice Springs, became convinced of the value of the two-way radio as an educational aid. The idea caught the imaginations of local educators and educators in the South Australian Education Department. By the middle of 1950 experimental lessons were in progress and in 1951 the school was officially opened. Regular daily lessons were transmitted by a team of local teachers until 1954 when a full-time teacher was appointed.

Until 1969-70, correspondence material was purchased from the South Australian Education Department and student scripts were returned to Adelaide to be marked. For about the next four years correspondence materials continued to be purchased from the South Australian Education Department but the marking was done in the Northern Territory. In 1973 the Australian government assumed responsibility for the education of all students in the Northern Territory and the Northern Territory assumed greater responsibility for producing its own educational services. From this time the Alice Springs School of the Air decided to phase out the South Australian Correspondence sets. Until February 1978 the school made use of the Royal Flying Doctor Service's equipment and technicians. Since that time the school has become independent in terms of radio broadcasting.

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Katherine School of the Air began operating in September 1966. From its inception it began broadcasting independently of the Royal Flying Doctor Service. At this time radio lessons were supplementary to correspondence courses supplied by the South Australian Correspondence School. After 1973 responsibility for the correspondence program at the Katherine School of the Air shifted from the South Australian Correspondence School, although sets of material from South Australia continued to be used. In 1978 Katherine School of the Air moved into a new million-dollar complex which included twin studios, recording facilities and a printery.

In 1970 the Director-General of Education in South Australia issued what was known as the Freedom of Authority Memorandum. In essence this memorandum gave individual principals the authority to do what they believed was right for their school. What happened at the two schools of the air in the Northern Territory was that the two principals at that time decided what was best for their own schools, but their philosophies were different. In Alice Springs the decision was made to rely on individually based programs. The principal in Katherine decided to rely mainly on the South Australian correspondence sets. The result was that for some years the development of materials and the amount and kind of commercial materials differed substantially between the two schools. After 1974 the principal of the Katherine School of the Air was given the task of updating the curriculum, a task which he and his staff pursued energetically even though the staff were given no special training in curriculum development. Even as late as the early 1980's one or two grades at Katherine were still fairly dependent on the South Australian produced material which was purchased in bulk from South Australia.

In mid-1979 a decision was made to establish a Northern Territory Secondary Correspondence School. The school began in January 1980 with five teachers, one clerical assistant and six students. Courses were offered in English, Mathematics, Science, Geography and Art at the Years 8 and 9 level, the first two years of secondary schooling in the Northern Territory. These courses were entirely developed by correspondence schools in other states. Since then each year has seen an increase in the range and year-level of subjects offered. Course development has been an ongoing process. A number of new courses have been developed at the school and the majority of original courses have been modified to suit Northern Territory requirements.

The Secondary Correspondence School came into existence as a unit attached to Dripstone High, one of the Darwin High Schools. The Principal of Dripstone is technically the Principal of the Correspondence School, the designation of the officer in charge being 'Assistant Principal Dripstone High/Head Teacher Correspondence School.'

Present Situation

It should be noted at this point that the schools of the air in the Northern Territory are also primary correspondence schools. No separate primary correspondence school exists. Differing from the situation in some other states where correspondence material is provided from a central authority, this situation has several implications. One is that

the Northern Territory schools of the air need to cater for a number of students who are not on radio and who are not in direct regular contact with the school by telephone or by any means other than a mail service. A second is that the basis of the work must be on correspondence, more so at Katherine than at Alice Springs where only a small number of students are not on air. A third is that Alice Springs and Katherine have responsibility for the generation of their own correspondence material, subject to certain constraints which will be described later.

The Katherine School of the Air at present caters for an average 210 pupils in 125 families from pre-school to Year 7. Most students are located within a 500 km radius but there are students in Malaysia and occasional students travelling overseas. The Alice Springs School of the Air provides an educational service for about 130 children from pre-school to Year 7 living on properties or settlements covering 1.3 million square km. Currently the secondary correspondence school is catering for 66 full-time and 181 part-time students and is providing 54 subjects in Years 8 to 12. This year, 1983, is the first in which matriculation subjects have been offered.

ISSUES IN CURRICULUM PRODUCTION

Formulation

One question posed about distance education curriculum is, 'Who should write it?' Phrased this way the question suggests two others: 'What is meant by "write"?' and 'What is meant by "curriculum"?'

For the purposes of this paper it is deemed useful to consider 'write' as having two significant attributes, one being 'formulation' and the other 'translation'; and to be concerned with five significant attributes of 'curriculum': structure, objectives, content, materials and strategies.

One way in which a state or Territory education system can achieve cohesion and a measure of curriculum control according to its perceived public responsibility whilst allowing schools the freedom to respond to local needs, is to formulate the structure and objectives of the curriculum centrally, but have these translated by individual schools through choice of materials and strategies. Some content can be determined centrally; some chosen locally.

Currently a Core Curriculum is being implemented in the Northern Territory covering seven subject areas at the primary level - English/Language, Mathematics, Science, Social and Cultural Education, Health and Physical Education, The Arts, and Computer Education, and these seven plus Life and Work Skills at the junior secondary level. The 'core curriculum consists of those skills understandings and experiences deemed essential for students to have mastered or to have undergone before leaving school.' Core curricula in six areas (not Computer Education) were introduced into Northern Territory primary schools during 1981 and full implementation began from the beginning of the 1982 school year. Core is being introduced progressively in seven areas (not Computer Education at present) at the junior secondary level over the years 1982, 1983 and 1984. A Junior Secondary Studies Certificate will be issued for the first time at the end of 1984.

Schools of the Air and the Secondary Correspondence School are obliged to implement relevant core curricula in terms of structure, objectives and that content formulated in published documents. The substantial task of translating these formulations through appropriate materials, strategies and additional content remains a task for the schools themselves. A significant concern of the Secondary Correspondence School during its short existence has been that of translating faithfully skills, understandings and experiences formulated in core documents into effective distance learning materials.

Translation

In the case of correspondence schools in particular considerable advantages accrue from having the translation of the curriculum occur at the local level. By 'local level' is meant the group of educators responsible for teaching the particular curriculum and the group whose members are most likely to have a thorough knowledge of the context within which teaching will occur and of the students who will be affected by the curriculum.

For example, there are apparent differences in client populations served by the schools of the air in Katherine and Alice Springs. In the Alice Springs school there seems to be a higher proportion of fixed location children, that is those on cattle stations, in stores and similar locations and a higher proportion of employed supervisors than there is at Katherine. It can be assumed that a more homogenous level of education pertains amongst supervisors associated with the Alice Springs School of the Air. In the case of the Katherine School of the Air there is a higher rate of mobility amongst families and it seems that fewer parents are able to employ a supervisor. More parents, mainly mothers, themselves tend to supervise the children and usually supervision has to be fitted in along with other duties such as station cooking, bookkeeping, assisting in the store and so on. In addition, Alice Springs School of the Air has almost, if not totally, 100 per cent of students on air. In the case of Katherine approximately thirty families do not have radios and a significant number of families do not have access to a telephone.

All this means that a curriculum as translated for use at Katherine School of the Air would probably have to contain more extensive and more detailed instructions and a greater number of instructional steps to cater for those supervisors with possibly only a moderate level of education and with no immediate contact with the school of the air either by radio or by telephone.

Change

A potential problem of a centrally formulated curriculum coupled with local translation is that of change. Curriculum development is widely regarded as a continuous process. Such activity is essential where it involves using formative evaluation data to harmonise more closely with learner characteristics or research information to revise sequencing or newly discovered information in various disciplines to increase relevance. However, it is possible for changes to be associated with alternative, but not necessarily better philosophical or psychological positions of senior staff with the power and authority to effect changes.

Significant changes made to structure or content can be far reaching. Accommodating to changes of these kinds can be difficult in ordinary schools, but difficulties are exacerbated in correspondence schools which undertake the task of translation, because of the lengthy lead time required for developing, printing and distributing material. It would seem preferable that the objectives and structure of the centrally determined component of curriculum remain largely unchanged for a substantial period of time and that adjustments necessary because of changing societal context be made at the local level through changes in materials, strategies and content. In this way, those who are teaching the curriculum and who know most about the learning context and learner characteristics, have a measure of control over the rate of change to which both teachers and learners can accommodate, an important curriculum variable.

Strategies for Producing Curriculum Materials

Within the context described above, given the historical antecedents, a selection of strategies which have been employed for the production of curriculum materials at the schools of the air and the Secondary Correspondence School in the Northern Territory are described below.

Contract

At Katherine School of the Air since 1981, emphasis has been placed on upgrading the quality of the correspondence material in transition and completely revising the material in Years 1, 2, and 3. A Schools Commission contract is drawing to a close which provided the salary of a teacher for twelve months to rewrite the correspondence Language Arts sets in Year 1. As a result of that grant twelve correspondence booklets, each designed to last three weeks, plus matching handwriting books for each of those 12 books have been written and a significant portion of the material has been printed.

Course Teams

One significant means of developing curriculum materials employed at the Katherine School of the Air has been the use of a course teams approach. It is probably beyond the capacity and resources of one teacher alone to write a curriculum package or for one person with an innovatory idea to translate it into curriculum materials. Although a substantial part of a teacher's material may be written by one teacher it is always checked by other teachers and by the principal before being typed and released. Once released, the material is used on a trial basis for twelve months, after which accumulated evaluation feed-back is examined carefully, and revisions made if necessary.

In a course teams approach people who write the material come from several categories. Firstly the actual school teaching staff have been involved. Some teachers seem to have a gift to write, others do not, and because of individual staff loadings some teachers have more time to write material than others. Levels of success have been varied. One problem with staff writing material is that in spite of the best intentions, target dates frequently cannot be met because other priorities intrude. All sorts of events such as sports days, barbecues, Christmas parties and additional enrolments tend to disrupt planned schedules for production of curriculum materials.

Although school staff should be involved in writing curriculum materials it has proved difficult for many staff to write material from the beginning for a particular grade. One alternative is to employ local teachers who are no longer in full time employment but who have worked as emergency relief teachers (ERT's) at the school for one, two or more days over a period of months or years. These people form a pool of potential curriculum writers who are experienced with the school-of-the-air system and who have the potential to be trained to produce material. Over a period of three years six or seven teachers in this category have been engaged. Of these, two or three, about 30 to 40 per cent, have been highly successful. Given the special nature of curriculum materials for correspondence schools and the special problems involved in writing them, that success rate seems satisfactory. These ERT curriculum writers are provided with a detailed outline by the teaching staff of the gap in the program that exists and they are given guidelines on the core curriculum. Normally they come back at several stages during development of the material for comment and criticism from the class teacher and where necessary from the senior teacher in the area and from the principal.

A number of parents, perhaps about 10 to 15 per cent, are ex-teachers. They are usually those who left the teaching service when they married and have raised a family. They have professional qualifications and they are closely involved with the school of the air because they are working with their children on a daily basis. Potentially they are in an excellent position to contribute to the development of curriculum materials. An inservice program concerned with curriculum development was provided for several parent ex-teachers. As with the ERT group described previously, about 30 to 40 per cent of this group was highly successful.

An advantage of using parents to produce curriculum materials is that it reintroduces people to the work force and helps them to update their teaching skills. Parents have appreciated the opportunity to participate in curriculum development activities and to be closely involved with their children's curriculum. An added benefit has been that the parent/teachers who have been involved as curriculum writers are able to speak up at parents' meetings when requests are made for staff to do this or do that or to write this or to write that. The parent/teacher/curriculum writers are able to say that from their own recent experience the requests being made are unecessary or perhaps that the time proposed for a task is too short. This tends to create a better understanding on the part of parents of the extent and complexity of the teachers' task. Detailed guidelines are provided for the curriculum writers. They return draft material to the school of the air where it is commented on and returned to them for revision. Over a period of almost three years some excellent material has been written using this strategy for Year 4 including a two-booklet series on transport. This was a fully integrated program consisting of a text book, a work book, two video tapes and references to slides and film strips.

Contract writers have been used extensively to finish work for Years 2 and 3, and they have also been used in the Year 5 and the Year 7 areas. Overall the results have been most satisfactory.

The role of the principal is critical in the course team approach. The principal must keep a regular check on progress and must be ready to arbitrate in cases of any differences of opinion about what should be included and what excluded and about how the material relates to the core. Before anything is published the principal must read the final draft and make sure that it meets the curriculum needs.

The schools of the air have access to curriculum advisers associated with the Professional Services Branch of the Department. These people have proved ready to assist particularly in the early stages of planning for production of a unit and for identifying more clearly the gaps in the program when matched against the requirements of the core curriculum. In some cases advisers have been willing to act as professional reactants being prepared to receive drafts of materials and to make comments and recommendations for changes to them. In general, before advisers become involved with school of the air materials, they spend at least two or three days with the teachers talking with them and sitting in on their lessons. By doing this, advisers gain some familiarity with the standard of the students, the particular teaching problems involved, and the concerns of the supervisors. Unless this understanding is gained there is a danger that the framework of ideas brought to problems experienced by school of the air students and teachers may not be entirely appropriate.

Funding

The schools of the air are given a certain amount of money for what is called 'curriculum'. This money can be used to develop curriculum materials. At Katherine School of the Air the usual payment for curriculum development is about $10 to $12 an hour. The preparation of a two week set of materials in one subject normally takes about 25 to 35 hours so that it costs between $250 and $350. This does not include the typing or any lettraset that needs to be done. It includes organising and setting out content and listing appropriate references. More extensive materials cost more. For example the Year 4 transport materials referred to previously which were designed to last over a period of ten weeks cost about $1,200 and took about 120 hours to compile.

MULTI MEDIA AND THE CURRICULUM

The two-way radio is of course integral to the operation of the schools of the air and every child who is in a situation where a radio can be used is encouraged to use one. Teachers use the radio to enliven the correspondence material, and where possible to provide extensions, supplements or alternatives to it. A recent substantial extension to the audio component has been the visual component supplied through the Home Loan Video Scheme.

In the Northern Territory the recording and distribution of tapes is under the direct control of the individual schools of the air, and not under the control of a separate branch or unit located in the capital city. This means that the schools of the air in the Northern Territory are able to determine quickly what they require, record it and distribute it to meet specific needs.

Tapes are not issued on a regular automatic basis. Before any tape is issued it is matched to an aspect of correspondence work. Thus, rather than having a considerable amount of general educational material going out, all of the tapes issued are related directly to the curriculum. Comments from parents so far suggest that the number of tapes and the quantity of material on them seems to be about right at this stage. What is being produced at present is about an hour to an hour and a half per child per week. Parents tend to feel that any more material would be too much.

The crucial concern has been that of integrating the material on video tape with the correspondence material. This practice is consistent with the policy of keeping the program as integrated as possible in terms of correspondence material, video-tapes, marking, on-air broadcasts and home visits.

In addition to using pre-recorded programs, both schools of the air have facilities to make their own programs. At Katherine which has three studio cameras and complete switching and editing gear, several people have been invited to the school to make tapes related to the correspondence material and these tapes have been distributed to students. All teachers are trained in the use of the video studio equipment for the presentation of video tape lessons. Although this aspect of the program is progressing only slowly at this stage, feedback from parents on the initial output has been encouraging. There is much more to be done, but finding time to produce programs is a significant limiting factor. Anything from about two to four hours preparation is necessary to prepare one thirty-minute tape that is worth sending out. If and when time becomes more freely available, the number of in-house productions will increase. In addition to the video tapes a range of slides, film strips and audio tapes is used to supplement the correspondence material.

ADVANTAGES OF THE NORTHERN TERRITORY APPROACH

There seem to be distinct advantages in the approach adopted in the Northern Territory of having curriculum development largely controlled and undertaken in each of the three separate locations responsible for teaching that curriculum, that is Alice Springs School of the Air, Katherine School of the Air and the Secondary Correspondence School.

In the schools of the air it means that an individual student has one teacher as in a normal primary school and that teacher is responsible for all aspects of the child's development. The teacher has input into the selection and revision of curriculum materials. The teacher is responsible for the on-air broadcasts, for working with the child when he or she comes in for an in-school class, for visiting the child on location and for identifying video tapes to match the child's work. Both parent and child can identify one teacher as the initial avenue through which to seek assistance. Additional specialist teachers are available for such areas as music, but in general it is a one child one teacher system.

In the Secondary Correspondence School, because of subject specialisation, this one to one relationship cannot be maintained and at this stage the

Northern Territory Secondary Correspondence School does not undertake teaching by two-way radio or by telephone. Students are encouraged to phone teachers but few have availed themselves of this means of communication to any great extent. However, because teachers who are responsible for marking scripts, for undertaking home visits and for participating in the residential school are also involved in curriculum development, a close teacher-student relationship is maintained.

Producing Curriculum Materials in the Victorian Correspondence School

DON LUGG*

The production of curriculum materials in the Victorian Correspondence School can be understood only against the background of school autonomy and the Year 12 assessments in Victoria.

In Victoria at the secondary level there are no general curriculum guidelines for Years 7-11 and each school has complete curriculum autonomy in both the high and technical school systems.

At Year 12 there are various forms of final assessment:

1 Higher School Certificate (HSC)

(i) Group 1 subjects, for which there is both an external examination (70%) and internal assessment (30%) of options. This is the most common form of Year 12 assessment.

(ii) Group 2 subjects, which must be accredited by the examining authority, and are assessed internally.

2 Schools Year 12 and Tertiary Entrance Certificate (STC)

Within the school there is negotiation about the course to be followed. This is approved by the examining authority. Assessment is internal.

3 Tertiary Orientation Program (TOP)

This course is offered by technical schools. Assessment is internal.

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* Don Lugg, Principal, Victorian Correspondence School

4 Year 12 Certificate

An alternative to TOP in technical schools for students not likely to proceed to tertiary studies. Assessment is internal.

The curriculum autonomy in Victorian secondary schools does not extend to HSC (i) for which courses are prescribed in detail for the purposes of the highly competitive external examination.

At the secondary level the Victorian Correspondence School offers a range of subjects in Years 7-12 with HSC (i) in Year 12. It follows that the Correspondence School has curriculum autonomy with respect to Years 7-11 but not for HSC (i) in Year 12. This autonomy applies to both the subjects offered and the content of those subjects.

In spite of this freedom, the reality is that at the secondary level the Correspondence School offers a predominantly academic course in Years 7-12. Notable exceptions to the academic offering are short courses in Careers Education for Years 9 and 10, including work experience, and for pregnant girls who are temporarily absent from their normal schools.

Procedures for new curriculum developments are delegated by the principal to an elected staff curriculum committee which may receive input from any teacher. The teacher is obliged to follow guidelines set out in the attached 'Curriculum Review Procedures' booklet. These guidelines provide for consultation between various interested parties and investigation of the viability of any proposal.

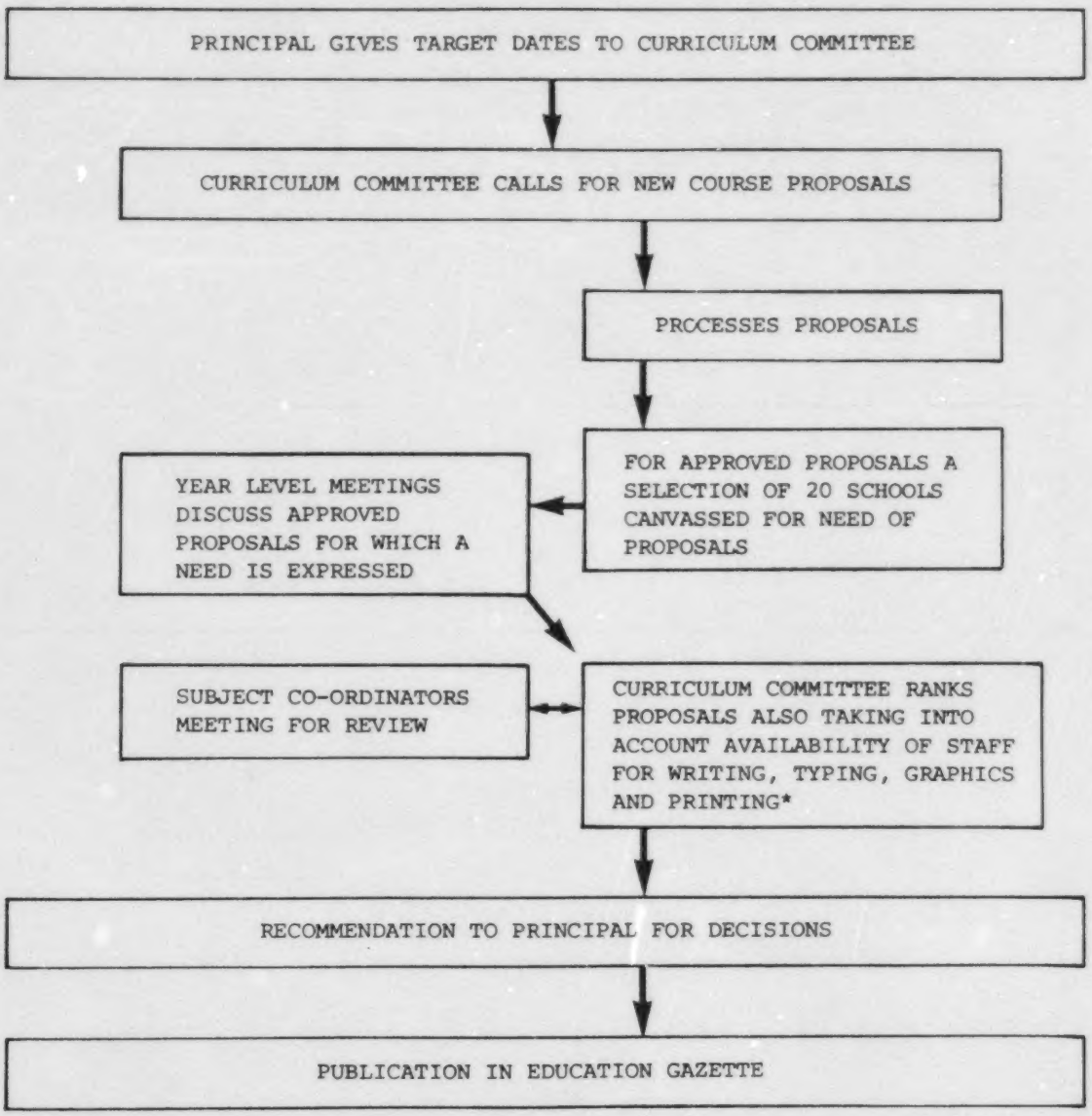
The curriculum committee has authority to recommend and the final decision rests with the principal who arrives at decisions after consultation with the whole staff.

The accompanying flow sheets show the major avenues of communications.

APPENDIX 1

VICTORIAN CORRESPONDENCE SCHOOL

NEW SECONDARY COURSES


PRINCIPAL GIVES TARGET DATES TO CURRICULUM COMMITTEE
CURRICULUM COMMITTEE CALLS FOR NEW COURSE PROPOSALS
PROCESSES PROPOSALS
FOR APPROVED PROPOSALS A SELECTION OF 20 SCHOOLS CANVASSED FOR NEED OF PROPOSALS
YEAR LEVEL MEETINGS DISCUSS APPROVED PROPOSALS FOR WHICH A NEED IS EXPRESSED
SUBJECT CO-ORDINATORS MEETING FOR REVIEW
CURRICULUM COMMITTEE RANKS PROPOSALS ALSO TAKING INTO ACCOUNT AVAILABILITY OF STAFF FOR WRITING, TYPING, GRAPHICS AND PRINTING*
RECOMMENDATION TO PRINCIPAL FOR DECISIONS
PUBLICATION IN EDUCATION GAZETTE

* *See* Appendix 3.

Curriculum Review Procedures

CORRESPONDENCE SCHOOL

CORRESPONDENCE SCHOOL

CURRICULUM REVIEW PROCEDURES

INTRODUCTION

This paper prepared by the Curriculum Committee and approved by the Principal, provides guidelines for members of the secondary staff to use when proposing new courses for the secondary Correspondence School. The democratic process for evaluating these proposals will maximize the breadth of input into the school's overall curriculum design and will be an efficient way of obtaining staff consensus on a projected curriculum change. It will also, hopefully, encourage teachers to work as a team at their year level and for the total school curriculum.

TIMING

The Curriculum Committee will call for proposals for new courses at a time which allows the Committee to process the proposals and, if approved, allows course writers time to prepare the first run (or equivalent) by the dates scheduled for typing etc. Proposers of new courses should indicate an estimate of course writing time needed on Form B.

FORMAT OF PROPOSALS—FORM A

1. Name of Staff member(s) proposing course.
2. Name of course (even if tentative).
3. Aims of course - what it is hoped to achieve.
4. Objectives - what it will teach in order to achieve those aims.
5. Syllabus - the actual contents.
6. Reading materials.
7. Assessment procedures.
8. Extra finance required by the student, if any.

AND

FORM B

1. Who will be writing the course?

   *A course-writing team normally consists of the writer, a subject consultant, other readers (one or two), graphic artist and chairperson.

   Further, it is the chairperson's responsibility

   (a) to monitor the setting-up, composition of, and planned time-table of a course-writing team.*

   (b) to monitor progress of same by perusal of minutes of meetings etc.

   (c) to ensure that the resulting course meets required production standards.

2. Who will be teaching the course?
3. Is it a single year course or is it one course of a series at several levels of the school?
4. How much time will be needed to write the course?
5. What are the Library resources - what's available?
   what's needed?
6. Has the need been canvassed? - How?
   What were the results?
7. What support has been indicated from other teachers in the area?

Proposers are invited to present any other evidence they wish, in support of their proposal, on a separate sheet which should be attached to Forms A & B.

PROCESSING THE PROPOSALS

When all the proposals have been received they will be circulated to all members of the Curriculum Committee a week prior to the meeting at which they will be discussed.

They will be considered in batches determined by their year level. The current options available at year levels should be kept in mind in order to ensure an equitable distribution of opportunities for our full-time students.

The introduction of Group 2 subjects at Year 12 will be considered.

At the level of the first discussion a rough ranking will be carried out and any requests for further information will be communicated to the teachers concerned at this stage.

CONSULTATION WITH SCHOOLS

It has been suggested that a selection of 20 schools who already use correspondence tuition should be surveyed on a regular basis. A sample of representative schools could be chosen along the following lines.

Inner suburb high schools	2	
Middle suburb high schools	3	
Outer Eastern suburb H.S.	3	
Outer Western suburb H.S.	2	
Big Rural Town H.S.	5	(incl. Geelong)
Small Rural Town H.S.	3	
Small Schools (Consolidated etc)	2	TOTAL 20

A simple questionnaire will be designed to accompany the proposal courses so that we can easily assess whether these courses are needed by the schools we service or, equally importantly, whether these courses are already in some schools and are popular. This would be encouraging for our full-time students, whereas the former information, that they are needed in the schools, indicates that we should provide a further service to schools. Either way, such surveying would provide useful information.

If proposers have knowledge of a need for a course that has been expressed by outside sources, could they please include this information with their proposal on Form B.

CIRCULATION AT YEAR LEVEL

The proposals that are considered possible at a year level will then be discussed at a year level meeting with the Curriculum Committee. The proposals will be circulated to the meeting beforehand and the teachers proposing new courses should come to the meeting prepared to answer questions such as the following.

1. What will the student gain from studying this subject?
2. What skills will he/she be expected to develop?
3. What communication skills will he/she be expected to acquire?

The meeting will then be encouraged to rank the proposals.

THE CURRICULUM COMMITTEE'S DECISION

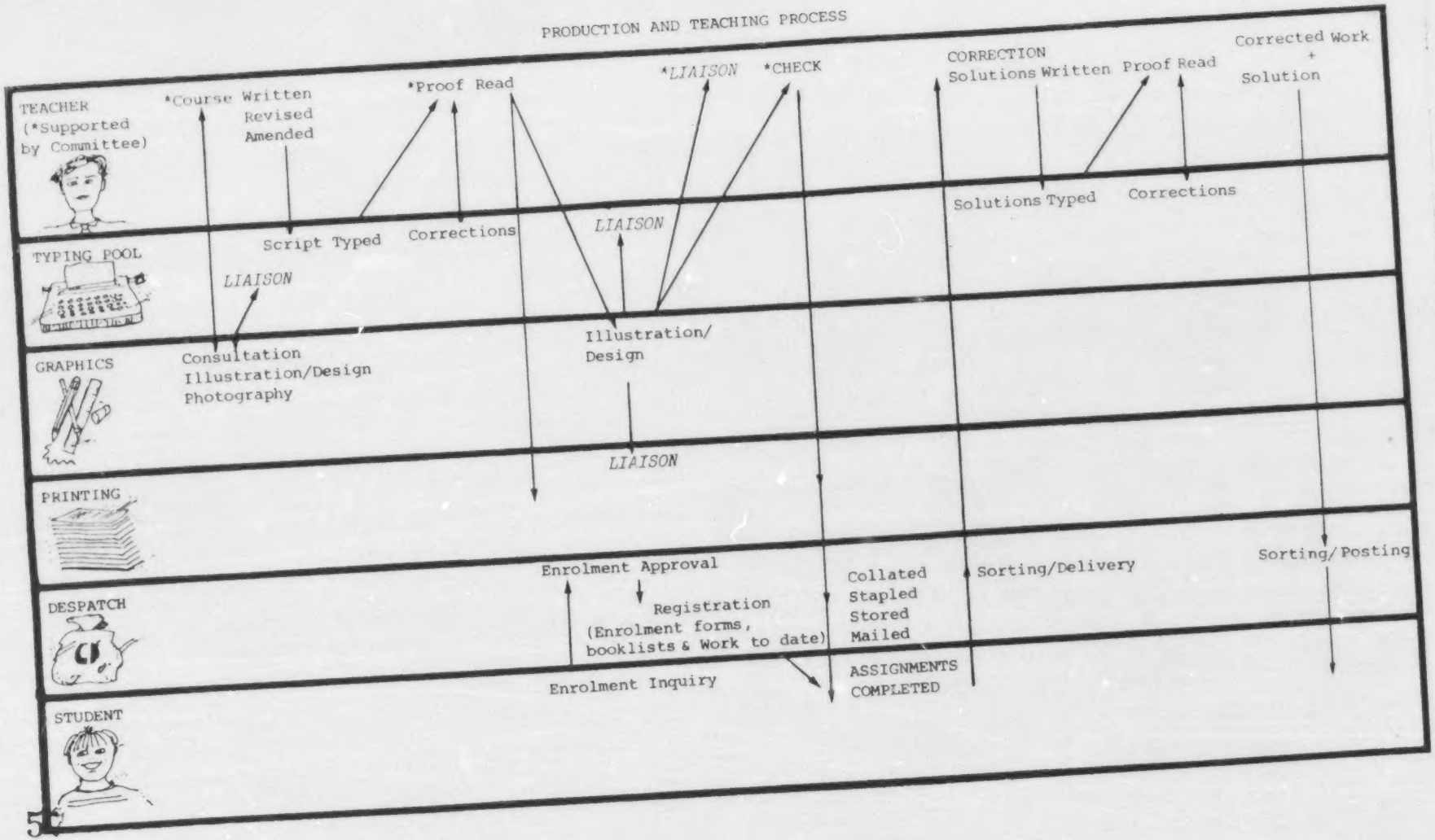
Using the advice from the year level meeting and the school survey, the Curriculum Committee will then rank the proposals. Also considered will be:

1. Available staff for writing
2. Available staff for typing
3. Typing, graphics etc. time
4. Printing time

The Committee will then take the proposals that they have decided to accept to a coordinators' meeting for a last review before the final decision is reached and a firm recommendation made.

CORRESPONDENCE SCHOOL
CURRICULUM COMMITTEE 1983

PRODUCTION AND TEACHING PROCESS



Procedures and Problems in Producing Curriculum Materials at the South Australian Correspondence School

VIC STONE*

PROCEDURES

> 'Since the authors of correspondence units will never be physically present for questioning, extra care must be taken to ensure that each unit is a sound piece of exposition.'

Because correspondence courses are to remain appropriate learning material for a number of years, and because competition for scarce resources requires that curriculum planning extend beyond the normal budgetary period, procedures for producing curriculum materials require 'extra care' from the outset. The key person in the school's Curriculum Development Committee, made up of representatives from sections within the school is the Deputy Principal (Curriculum Design and Management) who is responsible to the Principal for the school's course writing, the management of the production team and control of the Printing/Publications and Materials lines of the budget (See Appendix 1).

Three major sources are used as guidelines by the school's Curriculum Committee:

1 A part of the school philosophy - 'The aims of the school to do with curriculum' - outlines the major course writing goals.

2 The document 'Our Schools and Their Purposes (Into the Eighties)', issued by the Education Department, forms the basis for future curriculum planning and is to be implemented in all South Australian schools by the end of 1985.

3 The various curriculum papers issued from time to time by the Curriculum Directorate of the Education Department provide more detailed directions to curriculum leaders in the primary and secondary sections of the school, to faculty groups and to individual course writers, who adapt the directions to the distance education mode.

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* V.O. Stone, Principal, South Australian Correspondence School

Course writing has traditionally been carried out by writers chosen from the teaching staff. Currently most of the school's course writers divide their time between teaching and course writing duties. Course writers have reduced teaching loads, and in four specific cases teachers are employed in full-time writing duties. The output from these full-time writers has been so encouraging that a proposal is currently under consideration to divide the work of teachers into two separate areas - teaching (interaction with students) and course production (full-time writing preparation of curriculum materials).

In the current financial year it is also proposed that the school, for the first time, will employ on contract a teacher-writer to write a senior secondary course. This promises to be most cost-effective.

Similar use of free-lance artists, contracted to complete specific tasks, proved very successful in the last financial year. Despite significant support from the Priority Education Program and the use of teacher-artists, perennial bottlenecks in the graphic artists' area had delayed production and frustrated course writers.

Last year the school's printing was taken over by the Government Printer. Funding is now provided by the Education Department's Curriculum Directorate. Despite earlier misgivings, the school is generally satisfied with the service provided.

The Priority Country Education Program has given invaluable assistance in the development of innovative course materials by making it possible for the school to employ more course writers and school assistants, and by providing funds for production hardware and software.

Bold advances have been made in the production of curriculum material particularly video, but also audio, as well as visually more attractive print material. In this brief description of production procedures I hope that I have not given the impression that everything is perfect. That of course is not so. This will be more evident as we move into the second section of this paper, which outlines the problems encountered in producing materials at the South Australian Correspondence School. (Appendix 2 shows the school's production flow chart.)

PROBLEMS

The school's curriculum/production problems are outlined under three categories - those concerning the course writers, the problems met by production staff and those that face management in the school.

Course Writer's Problems

> ... the correspondence course writer is placed in one of the most vulnerable positions in the education system, in that his or her work is far more easily held up to scrutiny because of its relative permanency and because opportunities to alter sections of the text once it is in print are limited.

Because course writers are vulnerable to criticism, there is a tendency for them to become defensive and over-sensitive to comments with resultant hinderance to successful proof reading and sub-editing. Course writers writing alone experience feelings of isolation and uncertainty about expectations. On the other hand, where team-writing is employed incompatibility in the partnership may be a troublesome drawback.

Trialling assignment work can be a time wasting procedure if it is not carried out with students working in the distance education mode. It is always difficult to make a test situation duplicate the real situation.

Clerical duties in securing copyright cannot always be comfortably delegated.

Some of the chores in research and administration, associated with preparing audio/video material and photographs are inescapable, but precious time is spent in work which could be just as effectively, or even more effectively, carried out by school assistants.

In catering for a diverse clientele there is difficulty in assessing the level at which learning materials should be pitched and in deciding when alternative courses for different levels are justified. The supervisor may be a skilled mother, or a young inexperienced governess, or there may be no supervision at all.

There is a need for separate, suitable writing areas with adequate space free from distractions, and with storage facilities and nearby library resources.

Working at home does not always present ideal working conditions, because of lack of resource materials there. Creative writers, however, feel they need the freedom not to be restricted to work at fixed venues or be confined to rigid timetables. There is also the danger that course writers working away from school may isolate themselves from other teachers.

Problems for Production Staff

Production staff (course typists and graphic artists) have their problems too. Authors who do not remember recommended procedures cause frustration. Writers seeking late involvement with a busy Graphic Arts Section cause delay to others. Lack of a typesetting facility on the premises retards the output of illustrators and lithographer.

Problems for Management

It is essential that a top quality appointee head the curriculum/ production unit. A problem exists for management if the selection process does not take into account the wide-ranging practical and theoretical skills and experience which are prerequisites for the position (Appendix 1 shows the Duty Statement for the Deputy Principal, Curriculum Design).

Writing and publishing correspondence curriculum material is expensive, and consideration should be given to writing for a wider intra- and inter-state audience (with all its attendant problems).

The efficiency of appointing teachers without correspondence teaching experience to course writing duties is questionable.

Editing and sub-editing remains a perennial problem. Management is charged with the responsibility of boosting the morale of both writers and editors.

Despite the best intentions of correspondence school representatives at the Raywood Conference in 1976, the exchange of interstate curriculum material is not working well. Surely much expensive time and effort could be saved by closer liaison in this field.

RECOMMENDATIONS

This paper does not make recommendations regarding the solution of problems in the production of curriculum materials for isolated students. It merely describes the procedures and problems in producing curriculum materials at the South Australian Correspondence School. Hopefully, along with others from other distance education centres, this paper will form the basis of discussion to resolve some of the problems raised.

I do, however, wish to make three recommendations of a more general nature -

1 That the Australasian Correspondence Schools Principals' Association be re-activated at this workshop. The association has been on 'hold' since the 1976 National Conference at Raywood.

2 That exchange, sale or joint ventures in production of interstate correspondence courses be investigated as a matter of some urgency.

3 That management at correspondence schools and directors of isolated education in their respective states encourage correspondence school representatives to attend the World Conference of the International Council of Distance Education (formerly International Council of Correspondence Education) in Melbourne in February 1985.

APPENDIX 1

Duty Statement of the Deputy Principal (Curriculum Design and Management), South Australian Correspondence School

The appointee will be responsible to the Principal for the coordination of course writing and supervision of course production at the Correspondence School and is expected:

- to coordinate and provide leadership in course writing in junior primary and secondary sections of the school. In particular, advise on design and format of courses and in the provison of suitable associated resource material;

- to liaise with seniors and subject coordinators and curriculum committees to approve educational content;

- to advise in the trialling and evaluation of completed course material;

- to draw up schedules, deadlines for course writing and printing in conjunction with senior staff and Government Printing facilities;

- to allocate the school's production resources and manage the school's production team;

- to advise and assist in seeking copyright clearances. A detailed knowledge of the new Copyright Act and its implications for distance education would be desirable;

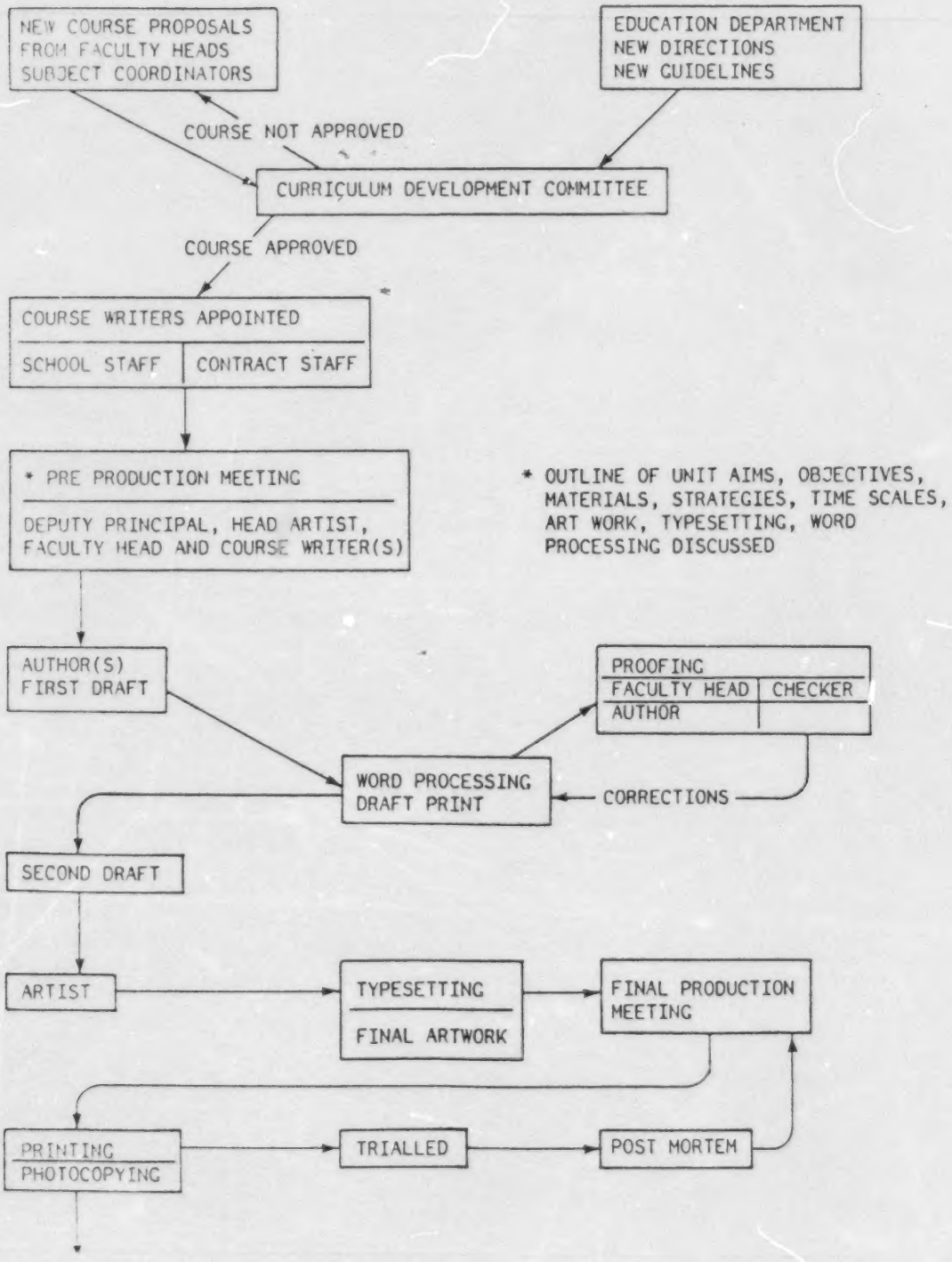
- to supervise the accurate costing, recording and accounting procedures associated with a printing budget of approximately $120,000 per annum; and

- a working knowledge of the techniques and procedures to produce material to a copy ready stage would be highly desirable.

APPENDIX 2

SOUTH AUSTRALIAN CORRESPONDENCE SCHOOL

NEW COURSE FLOW CHART 1983



Producing Distance Education Curriculum Materials in Tasmania

MAGGIE RAINBIRD*

FORM OF DISTANCE EDUCATION IN TASMANIA

History

In 1919, the Education Department established the Correspondence School to cater for the educational needs of isolated infant and primary school children. In 1945, courses for secondary students were introduced.

An External Studies Department had been established in the Hobart Technical College to provide correspondence tuition for apprentices and para professionals.

In 1976 the Correspondence School amalgamated with the External Studies Department to become the External Studies Service, and in 1982 it was reorganised as the School of External Studies within the Hobart Technical College. The college is a large institution consisting of a number of 'schools' which provide:

- basic vocational education in trade and paraprofessional areas;
- retraining courses for those displaced from employment by technological or structural change;
- recurrent education for those who are seeking to update their vocational skills or who would be otherwise denied the benefit of education;
- education to prepare people for work but without specific vocational commitment;
- courses for the unemployed and other 'special groups';

* Maggie Rainbird, Senior Mistress, Schools Area, School of External Studies, Hobart Technical College.

. adult and continuing education, education for leisure and community education; and

. external studies courses.

In 1982, the Hobart Technical College had an enrolment of more than 9,000 students with 200 full-time and 400 part-time staff.

School of External Studies

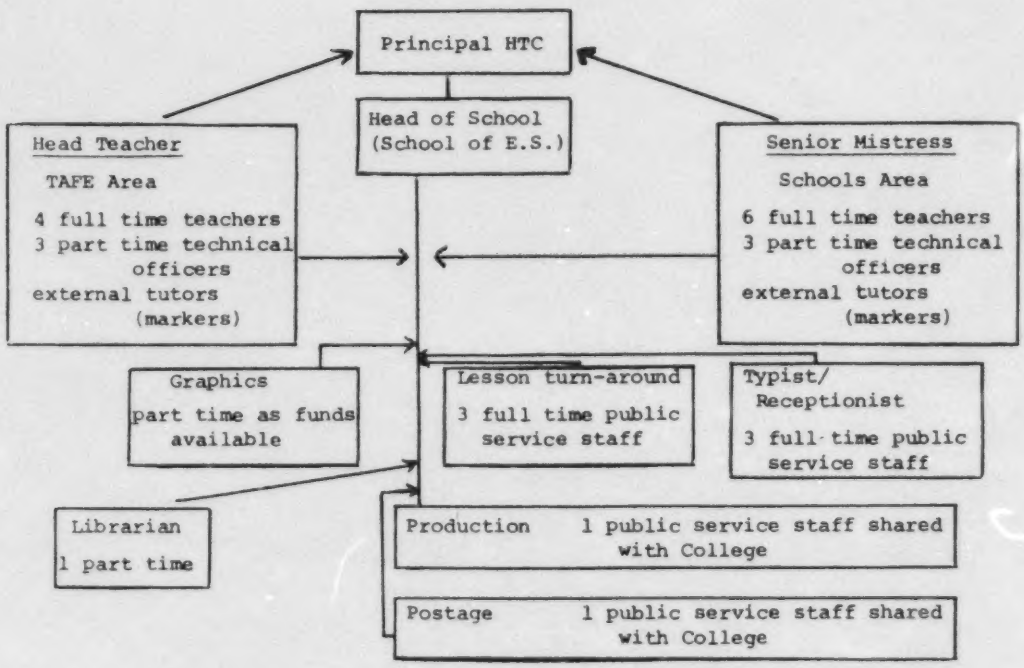
The School of External Studies is divided into the Schools Area and the TAFE Area, with responsibilities as set out below.

Schools Area - school-aged students studying primary, secondary and senior secondary subjects

- adult students studying secondary and senior secondary subjects.

TAFE Area - adult students undertaking courses in business studies, real estate, health surveying and park rangers.

Structure of the School of External Studies



The Schools Area

1. Enrolment

The Schools Area offers primary, secondary and senior secondary subjects and courses to school-aged children and adults. In July 1983 the enrolments were:

School-age students	134
Adults studying Grade 10	277
Adults studying Grades 11/12	132

Enrolment can take place at any time during the year. Because assessment for School Certificate and Higher School Certificate takes place in December of each year, students are encouraged to enrol at the beginning of the year.

2. Reasons for Enrolment

School-age students can only enrol with the School of External Studies for the following reasons:

- living over five kilometres from the nearest school and one-and-a-half kilometres from the nearest school bus route (Tasmania Education Act 1932);
- suffering from illness or physical handicap, temporary or permanent;
- travelling overseas or interstate with parents;
- living temporarily outside Australia;
- school phobia, truancy, suspension; and
- pregnancy.

In special cases, other students may be eligible but they must be recommended by a Guidance Officer, in accordance with Education Department regulations.

Adult students (over 16 years of age) may enrol in Grade 10, 11 and 12 subjects. As the lower grade courses are written for children, adults are not usually enrolled in them (except for special cases in Mathematics). Adults requiring remedial help are often referred to the Adult Literacy/Numeracy Section of Adult Education where volunteer tutors living in the students' own areas may be found.

Some statistics on our adult enrolments are below.

SCHOOL CERTIFICATE (GRADE 10)

Grade 10 adult enrolments (may be enrolled in 1-4 subjects)	-	Female	189	68%
	-	Male	88	32%
		Total	277	(Subject enrolment 555)

Location and Occupations of Adult Female Students

Location		Occupation	
South (Hobart area)	84	Unemployed	74
North West	13	Home Duties	59
North	25	Student	11
West	8	Office Assistant	5
East Coast	2	Farm hand	2
Overseas/Interstate	5	Teacher	1
Huon/Channel area	3	Occupational Therapy	1
King Island	3	VDU Operator	2
Flinders Island	1	Record Clerk	2
Midlands	9	Receptionist	1
Derwent Valley	12	Pensioner	6
		Field Assistant	1
		Post Mistress	2
		Shop Assistant	7
		Nurses' Aide	6
		Factory Worker	2
		Teacher Aide	2
		Nurse	1
		Hydrotherapist	1
		Telephonist	1
		Fisherwoman	1
		Croupier	1
189			189

HIGHER SCHOOL CERTIFICATE

Female	95	72%	
Male	37	28%	
	Total 132		(Subject enrolment 196)

Location and Occupations of Adult Female Students

Location		Occupation	
South (Hobart area)	39	Unemployed	37
North West	13	Home Duties	10
North	13	Student	7
West	1	Receptionist	3
East	2	Secretary	3
Overseas/Interstate	1	Occupational Therapist	1
Huon/Channel area	5	Nurse	9
King Island	1	Typist	4
Flinders Island	2	Ward Aide	2
Midlands	2	Teacher	1
Derwent Valley	16	Farmer	2
		Teacher Aide	2
		Auxiliary Nurse	3
		Kitchen hand	2
		Buyer	1
		Clerk	2
		Sales Assistant	3
		Craft Worker	1
	95		95

These statistics give some indication of the importance of access to education for women who are either at home, bringing up small children or unemployed.

Staffing of Schools Area

The Schools Area (in spite of its increase in student numbers every year since 1976) has had a reduction in staffing with two previously full-time teachers not replaced in 1982.

The staff consists of a Senior Mistress, eight full-time teachers (two positions at present being vacant eighteen months after they were vacated), and four part-time Technical Officers (on twelve to twenty hours per week).

Approximately twelve contract tutors are also employed to mark adult students' work externally.

The part-time staff are paid as Technical Officers and not as part-time teachers, as there is disagreement over whether or not we are actually 'teachers' in the School of External Studies. (This means a difference in payment of approximately five dollars per hour.)

Staff Duties

The school-age students have their programs planned, supervised and marked by teachers working in the Schools Area. Some of the adult students have work marked internally, but most is sent out to external markers who are paid at a rate per assignment.

Senior Mistress

The Senior Mistress has overall responsibility for the day-to-day administration of the Schools Area. She is responsible for all school-age enrolments and associated procedures and budget estimation and control. As a replacement full-time teacher in the School Certificate area has not been appointed since the beginning of 1982 she has retained teaching duties for School Certificate Science and school-age Mathematics.

Teachers

All teachers (including the part-time staff) are responsible for:

- marking school-age programs;
- allocating adult students to external tutors, checking on marked assignments and commenting on the student progress and results;
- rewriting, reviewing and updating courses;
- editing, proof reading and graphic organization of new courses in their appropriate areas;
- student counselling;
- answering student queries;
- moderating procedures in the appropriate subjects;
- organizing and conducting seminars when funds are available;
- visiting students when funds are available.

Courses Offered by Schools Area

Grades 1 and 2 — Infant Area

The first six units in Grade 1 (12 to 14 weeks work) can be used as a kindergarten course. Enrolments are sometimes taken as early as four-and-a-half years of age.

Courses at Present

There are 14 - 18 units in Grade 1 (and similar in Grade 2) with a lot of detail supplied for the home tutor. The courses at present are:

Reading Skills
Spelling
Mathematics
Craft
Creative Writing
Social Science

Grades 3 to 6 — Primary

Enrolments which take place during the year are credited with previous work done at school and a report is written at the end of each year.

(Therefore students move up a grade at the end of the school year. In School Certificate they move up only on completion of a course of work.)

The teacher contacts the child's previous teacher on enrolment to design a suitable course of study.

Courses at Present

Grades 3, 4 and 6	Sentence Structure	
	Spelling	
	Maths	
	Social Science	
	Hand Writing	
Grade 5	Language	Social Science
	Spelling	Science
	Reading	Hand Writing
	Maths	

Grades 7 to 10 — School Certificate

As mentioned previously, two groups of students are enrolled in this area. These are the school-aged children (under 16) and the adult students.

Each course contains a set number of units and each course is designed to be completed in one year. The Grade 10 courses are moderated for School Certificate assessment.

Courses at Present

The courses offered for school-aged students are:

Science
Maths
English
Social Science

These are offered in Grades 7, 8, 9 and 10 and at varying levels in each year. Some courses are non-levelled.

Grade 10 English, Maths, Science and Social Science and Basic Maths are offered for adults.

Grades 11 and 12 — Higher School Certificate

School of External Studies offers five Higher School Certificate subjects, all at Level III. We hope to offer an updated course in Social Psychology in 1984. Because of the difficulties associated with practical requirements our subjects, with the exception of Mathematics, are restricted to the humanities area.

As one Higher School Certificate teacher has not been replaced, and because of the diverse nature of the Higher School Certificate courses offered, teachers have been given overall responsibilities for a group of subjects, one of which is their speciality.

Courses at Present

English Literature - This is a one year course that is changed each year as the material to be studied is set by the Schools Board.

Australian History
British History
Mathematics
Economics

ASSESSMENT AND CURRICULUM APPROVAL PROCEDURES IN TASMANIA

School of External Studies is responsible for writing the majority of the courses it offers. Some of the TAFE courses are provided by other External Colleges but the Schools Area writes its own courses. Most of the writing is done by contract and the teachers act as editors/proof readers.

Tasmania has a Curriculum Centre run by the Education Department, but it provides help for teachers rather than courses for students. It helps with curriculum development but does no writing for the School of External Studies.

The examining body in Tasmania is the Schools Board of Tasmania.

Children receive six years of primary education and four years of secondary education. At the end of Grade 10 they can receive a School Certificate issued by their school and the Schools Board. A system of moderation ensures that standards are comparable in all schools.

Years 11 and 12 Higher School Certificate is achieved by sitting for an external examination (although assessment may be partially internal, depending on the subject).

The Schools Board of Tasmania forms subject committees which develop its subject syllabi. The School of External Studies works closely with these bodies. Subject supervisors and the primary, secondary and senior secondary directors are also kept informed about course content and, wherever possible, are involved in the course writing teams.

PROCEDURE TO GAIN APPROVAL FOR WRITING NEW COURSES OR REWRITING OLD COURSES

This is summarized in the first stage of the flow chart, under *obtaining funding*.

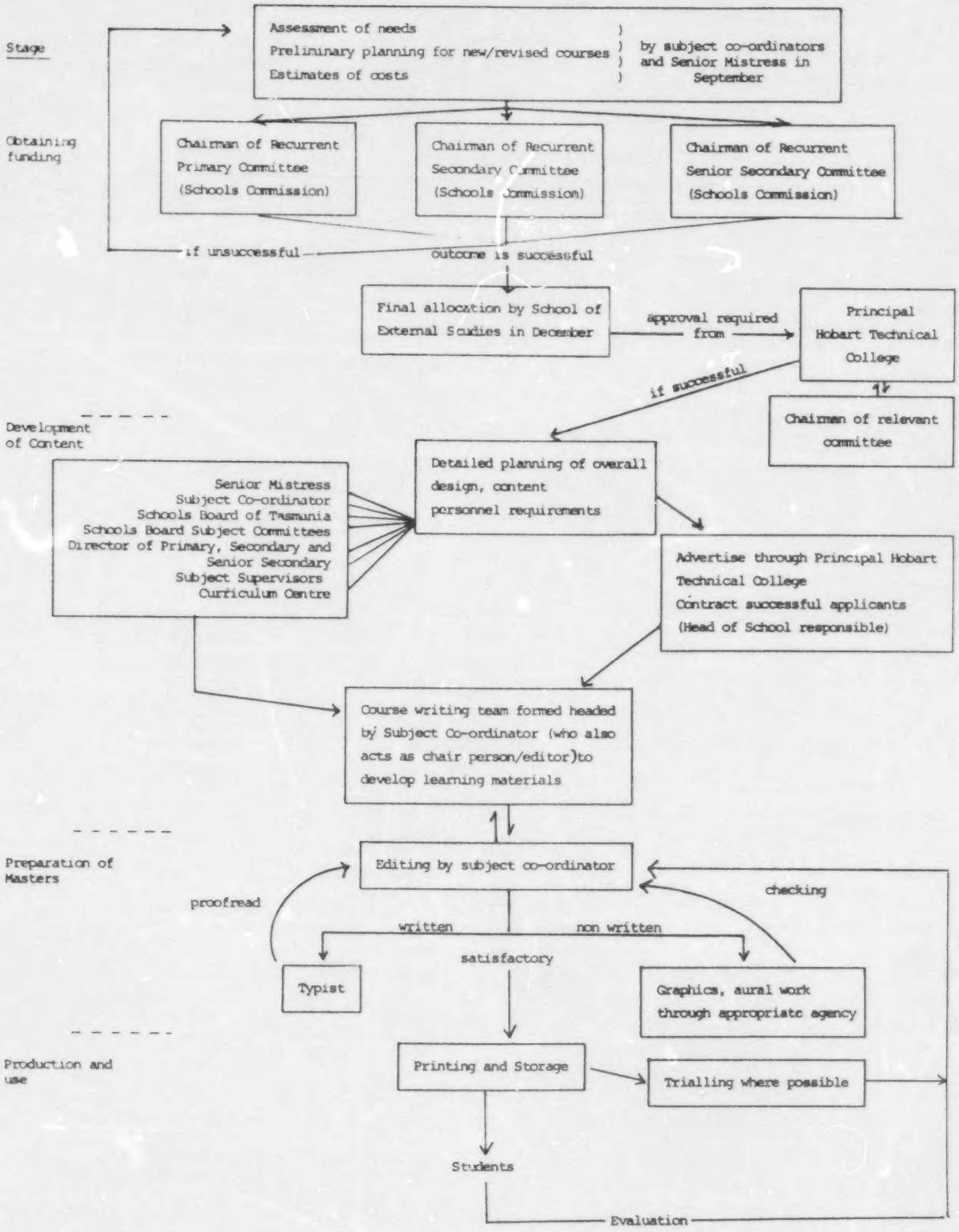
As mentioned previously, the Schools Area of the School of External Studies has basic funding from the Hobart Technical College (for example, basic materials, postage, phone costs, staffing) but the College does not

PRODUCTION OF NEW MATERIALS

School of External Studies Schools Area

Hobart Technical College

(Tasmania)



provide money to support any extras in the Schools Area (for example, travel, itinerant teachers, seminars and tutorials, course writing). These are regarded as the responsibility of the primary, secondary and senior secondary divisions of the Education Department. These divisions provide funds for course writing through Schools Commission recurrent grants.

Our procedure for course writing or revison starts in August of each year when we submit requests for funding for the following year to the chairperson of the appropriate committee (see flow chart).

The teachers involved in each area submit recommendations for new courses or course revisions and, after discussion with the Senior Mistress, a submission is made.

In December of each year we are notified of the total amount which has been allocated in each of the three areas. Because the allocations are usually less than requested, we have to decide priorities for course revision.

At this stage we inform the chairperson of the appropriate committee about how the money is to be spent. This has to go through the Principal of the Hobart Technical College.

For the last two years the Hobart Technical College initially has not approved our allocations to the areas we see as having priority. In both cases up to four-months delay has occurred before course writing/ graphics work has commenced.

Funding has been given to the Schools Area of the School of External Studies for the last four years. In the last two years a considerable amount of these funds has been allocated to graphic work since neither the School of External Studies nor the College has a graphic artist.

WRITING THE COURSES

Responsibility for co-ordinating the writing in the various areas is as follows:

	Grades 1 - 2		Infant Teacher
	Grades 3 - 6		Primary Teacher
English/Social Science	Grades 7 - 10		English/Social Science Teacher
Science	Grades 7 - 10		Senior Mistress
Maths	Grades 7 - 10		Technical Officer
All HSC	Grades 11 - 12		Technical Officer

These persons, in consultation with various others (listed on the flow chart) decide on:

. content of courses

. number of learning packages to make up courses

. amount and quality of graphics

. format, for example written, audio cassettes, charts, and so on.

We then advertise for course writers, arrange course writing teams and draw up the appropriate contracts. We try to contract practising teachers or those involved in curriculum design.

Writing team meetings are held at regular intervals to compare and discuss work in progress. The teacher concerned with each area has ultimate editorial responsibility.

Materials as produced are given to the production area where the typists work. We have very little layout experience and little advice is available.

Non-written materials may be prepared by the Media Centre. Tapes are prepared and copied by Hobart Technical College.

When complete, learning packages are produced and distributed to the students. If possible, trialling is carried out prior to large scale production and distribution.

PROBLEMS

The majority of our difficulties come from three main areas:

1 Being part of an institution (the Hobart Technical College) which is not supportive of our differing needs and mode of education (from the other Schools in the College).

This means that there are problems when our School of External Studies teachers are asked to complete teacher timetables and details of class sizes. There are continuous criticisms of our teaching hours and much discussion about out teaching duties as compared with those of face-to-face teachers. The Administration at present is trying to remove course writing and assignment marking from our full-time teachers' duties. They say that these duties can be done more efficiently and more cheaply by external people, leaving the teachers in the School of External Studies as administrators and counsellors. This means that we could lose our input into curricula and course content, and our contact with student needs. Teachers are worried that others without direct 'distance education' experience will make decisions affecting distance education without being aware of the special problems involved. There is also constant criticism of our postage and telephone costs which are naturally high in comparison with those of the other Schools within the College. At present we have only one telephone in the Schools Area which is a direct outside line, and this does not have access to STD.

2 Having school-age students enrolled, and offering primary, secondary and senior secondary courses in a TAFE College causes funding problems.

The TAFE sector will not fund these areas even though the majority of our students are adult (and therefore TAFE) students. Primary and Secondary divisions of the Education Department are similarly reluctant to fund anything which is supplied for adult students. The result is that the School of External Studies Schools Area is left with very limited funds.

3 Not being recognized as a viable form of education.

The Education Department in Tasmania does not seem keen to accept the need for supporting distance education. As only a small number of our students are geographically isolated, distance education is not considered important. It is difficult to point out to the appropriate personnel that distance education as an alternative form of education can be very important for providing access to education for both adults and children.

Lack of funding for course writing, kits and materials, travel to visit students, tutorials and seminars and understaffing are our major problems. It is a pity that Tasmania is having taken away from its distance educators the duties and responsibilities that other states are now giving their distance educators. Tasmania has been working since 1976 in a situation that correspondence schools in some other states are moving towards. That is, primary, secondary and senior secondary correspondence schools are being combined and distance educators are being involved in all aspects of distance education. As Tasmania is small this has always been a viable way of working. It is very reassuring to us that our mode of operating seems to be educationally sound.

Home Tutors' Difficulties in Coping with Curriculum

JAN GALL*

When I was invited to explain the home tutors' difficulties in coping with curriculum, I thought it would be a relatively easy task. It is something I have spent a lot of time exploring in the last few years and I have had first-hand experience. However, the more I thought about it, the more I realized that to cover the concerns of such a diverse group of people in the time allocated would be well-nigh impossible. Not only are the home tutors' circumstances different, but so too are the curricula and modes of delivery used by their various schools.

I decided to speak about the role of the home tutors in educating their children at home, and the circumstances in which they perform that role. Understanding those two aspects is necessary to understanding their difficulties. My comments will be confined to primary education, because this is the context in which the work of home tutors is vital.

WHO ARE THE HOME TUTORS?

Nearly all home tutors are women. The majority are the mothers of home-based pupils and most live in geographically isolated places. Apart from governesses and tutors employed for the specific purpose, all have responsibilities other than educating their children. Yet the successful implementation of primary distance education programs is ultimately dependent upon them.

I believe that home tutors are the unsung heroines of distance education.

THE ROLE OF THE HOME TUTOR

There are approximately 2,500 primary pupils in Australia whose only reasonable access to education is by means of the correspondence schools and schools of the air. Unlike their older secondary and tertiary counterparts, these primary pupils cannot be considered as independent learners able to work unaided. They require someone to be immediately

* Jan Gall, Eastwood, Blackall, Queensland

available - to interpret the lessons, to motivate them, to stimulate them, and to provide the immediate feedback which is essential for the learning process at a young age. This is why the home tutor's role is so important. She is the immediately available person.

The pupils' lessons, prepared by distance education personnel and delivered to their homes, are almost exclusively in the form of correspondence papers - the printed word. With the aid of that instructional material the home tutor sets about teaching her pupil.

Contrary to popular belief, primary correspondence pupils cannot and do not learn successfully on their own, following the instructions themselves with the home tutor doing little more than ensuring that they are seated at their work. Unfortunately this is what 'supervising' means to most people. Certainly there are times when children can and should proceed on their own, and there are exceptional cases where it happens all the time, but these are exceptions, not the rule. Most primary pupils require, and are given, some form of help most of the time.

For children learning at home, the home tutor is in essence their classroom teacher - and she fills in for non-existent classmates too. Ask one of them, 'Who is your teacher?', and one of the distance education teachers will be named. But ask, 'Who teaches you school?' and the reply will be the name of the home tutor, usually 'Mum'.

If I appear to have laboured this point, it is because I believe that everyone involved with designing and developing curriculum materials and delivery systems must first understand and appreciate the role played by the home tutor. Furthermore, it is necessary to recognise that the manner in which each home tutor carries out that role, and the pressures she experiences, vary enormously.

CIRCUMSTANCES IN WHICH HOME TUTORS TEACH

As I have mentioned already, there are 2,500 primary distance education pupils in Australia. They are taught by 1,400 home tutors in little classrooms scattered all over the country, each with its own set of problems, needs and expectations. This wide variety of learning situations is particularly important for this workshop to consider, second only to the obvious ones of distance and isolation.

The chief factors contributing to the diversity, and which need to be taken into account when deciding how best to provide for pupils and home tutors, are:

. degree and type of isolation (the family's mobility and communications)

. climate

. family's socio-economic situation

. curriculum offered in the home (in other words, learning experiences provided by the home as well as the formal curriculum)

. pupil's ability

- home tutor's competence
- home tutor's other responsibilities (including the number and ages of children in the family)
- support accorded the home tutor (by her family, peer group and/or professional educators).

The diversity is illustrated in the following examples:

- The home tutor living at a remote outstation, whose only contact with the outside world is a radio of the Royal Flying Doctor Service and six monthly trips to town, compared with the home tutors living with several other families on a large property only an hour's drive from an established provincial city.
- The home tutor teaching four children and cooking for six men compared with the home tutor teaching only one child and with only her immediate family to care for.
- The home tutor teaching a child who is eager to learn compared with the home tutor struggling with a learning disabled child.
- The home tutor living in a tent compared with one who has a special room set aside for a classroom.
- The well-educated home tutor compared with the home tutor who can barely read and write.
- The beginning home tutor compared with one of many years' experience.

I could go on and on. What is a problem for one home tutor is not for another; what is perceived as a need by one is of little consequence to another. However, I shall endeavour to outline the main difficulties confronting home tutors, and to point out some present practices which aggravate these difficulties. I would point out that not all comments apply to all schools. If I sound overly critical, please bear in mind that I was asked to present the problems. I do believe there are benefits also.

DIFFICULTIES CONFRONTING HOME TUTORS

The overwhelming concern of home tutors is the burden of responsibility.

- Am I interpreting the lessons correctly?
- Am I placing sufficient emphasis on that aspect?
- Too much on another?
- Why is this element included? What is its relevance?
- Does my child really understand what I have just taught?
- Have I helped too much? Did I question him correctly?

. Is his work up to standard? How do I tell?

. Am I expecting too much?

. How can I get him interested?

. Why does he take so long?

. Will he be able to cope on his own when he goes away to school?

These are typical of the worries of home tutors.

In combining the roles of mother and teacher, as is the case for the majority of home tutors, there are added problems. To be objective and have reasonable expectations of the child as a pupil, and to maintain a happy mother/child relationship under these conditions, place heavy emotional demands on these women. Some cope better than others, but all encounter stressful situations at some time.

Most home tutors are not trained teachers. All of them are working in isolation, and working in isolation causes doubts and insecurity. This is a problem for trained teachers, so it is not difficult to understand the feelings of home tutors who have misgivings about their competence to carry out the teaching role at all. They realise that a great deal of careful planning has gone into the preparation of lesson material, but they also realise that their pupils' educational outcomes ultimately depend on how they (the home tutors) implement those prepared lessons. This is often made more difficult through aggravating factors which include:

An Impersonal Approach by Teachers

In many instances, scant regard is paid to the home tutor. Sometimes her existence is not even acknowledged. Everything is addressed to the child - from the envelopes to the comments and explanations on corrected work.

Traditional teaching practices demand direct teacher/pupil exchange, but this is primary distance education and, as I have explained, this requires an intermediary - a home tutor. I consider that it is most important that all distance educators recognise the need to communicate with and support two people, not just the pupil.

The Time it Takes for Replies

It is often said that distance education pupils suffer from a lack of immediate feedback. I contend that primary pupils receive immediate replies to their questions, from their home tutors. It is they who must wait for the feedback from the marking teachers to be sure that their replies were correct, all the while worrying that they may be perpetuating mistakes as they proceed with successive lessons. This delay is detrimental to the pupils, but I can assure you it is the home tutors who suffer the stress of waiting.

Instructions and responses that lack understanding of the home tutor/ pupils situation -

This lack is demonstrated in instruction material from time to time by:

- language used;
- examples given (sometimes so foreign as to confuse);
- required reading (subjects which do not excite interest, a particular problem for those whose pupils have reading problems);
- required writing ('Your Favourite Television Program');
- misplaced concepts (lessons based on the premise that your immediate family is all the people living in your house);
- unnecessary lessons (speech lessons in a home where correct speech is the order of the day).

Stereotyped and Flexible Procedures

I have already pointed out the wide variety of situations in which home tutors undertake their teaching roles. Their individual needs and those of their pupils vary enormously, yet - except for extreme cases - some schools provide them all with the same materials, instructions and support.

In regular classrooms there are differences in learning situations and needs of pupils, and therefore teachers adapt the curriculum to allow for those differences. I do not think it unreasonable to expect similar adaptations to tailor distance education curricula to meet the individual needs of an even more disparate and disadvantaged group of pupils and their home tutors. I would go so far as to suggest that distance education, by its very nature, has the capacity to be even more flexible than the normal school systems.

Marking teachers' comments are of a personal nature and, as such, are particularly important. I am not going to give examples of poor responses - suffice to say that many home tutors can cite examples of responses so lacking in understanding of their situation as to ruin credibility and seriously hamper a proper working relationship.

Good communication is of the utmost importance. While new modes of delivery to speed it up would be desirable, they will be to no avail if the content of the communications delivered does not meet the needs of the clients. Personal support is essential, whether it goes directly to the pupils, or indirectly by helping the home tutors. This is not easy at a distance. I believe it can be attained only if the teachers are stationed in close enough proximity to their pupils/home tutors to have some appreciation of their lifestyles, even better if they can visit homes and see the physical settings of schoolrooms.

DEMANDS PLACED ON HOME TUTORS

Another area of concern is the demands that are placed on home tutors in terms of their ability and available time. Of particular concern is the fact that these demands appear to be increasing.

When I returned to the task in 1979 after a break of ten years, I found the changes in the curriculum and the way in which it is presented quite remarkable. Most of the lessons were much more interesting and alive, and I found my task more satisfying. However, I found the demands imposed upon me were far greater than those I had experienced in earlier years. Other home tutors of many years standing agree that this is the case.

One of the more obvious changes has been the shift from learning facts to learning through experiences, with the emphasis on developing skills. Correspondence served the purpose well when the main requirements were to supply the pupil with facts and then for the pupil to demonstrate that they had been learnt. I am not so sure of its adequacy now.

The time factor has long been a problem. Nearly all home tutors are also working wives. Whether helping their husbands with the business of running a property, mining for opal, building a fence, or catching fish, they are busy women. They have always had difficulty in finding the necessary time to devote to lessons. However, for some families, the time required to cover the content of the curriculum would seem to have increased until now there is a worry that pupils are overloaded.

This problem has emerged where other learning experiences, such as school-of-the-air lessons, activity days, and mini-schools, have been added to the basic correspondence lessons rather than being incorporated as an integral part. Thus, exercises that have been done orally for one teacher have to be repeated in writing for another. This places extra demands upon both pupils and home tutors.

Those families whose educational activities are all delivered by the same teacher, or even the same school, face fewer problems in this regard, but those whose education is delivered from several sources report a growing problem of overload. In the words of one worried home tutor, 'I feel just as I did when I first started secondary school. Every teacher gives homework without any regard to how much any other teacher is giving'.

An added problem for these home tutors is the number of teachers for them and their pupils to relate to - often confusing and, again, taking more of their precious time.

Those home tutors with children whose learning ability varies much either side of the norm face an added problem. They report that, although they want and need a different approach to help their children, they are invariably sent extra work to do. That serves to exacerbate what is already a big problem in their classroom. A child who is not coping with school is not easy to manage, let alone if asked to undertake more school work.

OTHER CONCERNS OF HOME TUTORS

These include a lack of access to resource materials. Another is an often narrow curriculum because Art, Science, Music and Physical Education are excluded. There is also the lack of opportunity for social interaction - an obvious disadvantage and one which country families hope may be overcome to some extent by improved communications. At the same time, however, they fear that technology may be used to isolate their children even further.

These matters pertain more to the children's needs, so let me conclude by saying a word for the children. After all, it is their education which is at stake.

Because of its unique characteristics, primary distance education presents many difficulties, not only for home tutors, but also for the education professionals. It is influenced strongly by the circumstances in individual homes. Because some families are unable to cope with the responsibilities or the workload, or are unable to provide the qualities they desire, some country children are severely disadvantaged. At the same time heavy demands are placed upon country mothers, quite different from those of their urban counterparts.

Primary education is a basic right of all Australian children. It is my hope that in the future distance education will provide for each of the 1,400 little classrooms out in the bush in such a way that the children will have equal educational opportunity, equal, that is, to one another and to children in regular schools. Maybe then the home tutors will be relieved of their duties to the extent that it truly can be said that they just supervise.

The Parents' View

RORY TREWEEKE*

As an introduction I would like to say that when we were initially asked to react to the previous speakers in the session I said to Derrick Tomlinson** 'I am not a home tutor - except as a substitute for my wife on the odd occasion and I find it damned difficult to do.' However, he insisted I be part of the program. So Jan and I discussed it and I said 'Well you have been a home tutor, you deal with it from that point of view*** and I will try and pick up some bits and pieces from the speakers'. Without doubt Jan has painted a very accurate portrayal of the problems and delights that are the lot of the home tutor, particularly the mother as a home tutor. What I will attempt is to highlight what I regard as the important matters arising from the papers delivered this morning.

I will preface my comments by saying that I am a product of the correspondence system. One factor that originally aroused my interest in ICPA and distance education was when our eldest son started his correspondence education in 1972 and I realised he was doing leaflets that I had done in about 1947 or 1948. Obviously something needed to be done. And that point was made this morning. Before World War II correspondence schools in all states of Australia were innovative and well ahead of their time, but various factors, such as the spread of bus runs bringing more children into larger schools in country areas, with the consequent decline in enrolments in correspondence schools, largely left them to become backwaters in the educational scene. Certainly the ICPA prides itself that in the twelve years we have been operating we have had some impact in again bringing distance education to the forefront.

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** Director, National Centre for Research on Rural Education.

*** *See* pp. 58-64

I was delighted this morning to hear various speakers scotch what was a very apparent syndrome at the Australian College of Education Conference on Rural Education two years ago, and that is if you educate people from the bush, 'How are you going to keep them down on the farm? They will want to disappear elsewhere'. It was very sad to me that many of the educators at that conference took that point of view. It is indicative of the concern of the people here who are involved in distance education that they appreciate that the children for whom they are providing the education, and the adults in many cases, should have the same choices before them as those who live and work in the cities and the major country towns when they decide what their life is to be. One may ask, what are we educating people for? That depends largely on peoples' individual talents, background, ambitions and the influences from their formative years. For some it will be to ensure that they have 'functional' literacy and numeracy to enable them to live as best they can with what talents the good Lord has provided them with. In other instances it will be to develop their talents to the highest level because they happen to be particularly fortunate or gifted. The point is that education, as Jan has said, is a basic right, and necessary for survival both as individuals and as a nation.

One element in education that is questioned to a certain extent these days is that the schoolroom context is a normal one. In fact mass education by the placing of children and teachers into relatively small rooms in a highly organised way is new in terms of human history. So when we are looking at the problems of distance education, we tend to look at the urban school as the norm and extrapolate that to our own situations. In fact the family-centred learning situation is an ancient and honourable one and it was mentioned this morning that even in some urban areas there is a move back to families teaching their own children with the aid of outside materials. There is no doubt that the correspondence system can and should be an extremely satisfying one for the families involved. Jan has very aptly described the pressures and problems which are confronted by the home tutor, but there is no doubt that if the proper assistance is available, if the motivation is there on the part of the parents, then that family has the joy of knowing that they are contributing to their children's development and in a complete way that few people these days are privileged to do. This point was raised in the context of the impact of the teacher(s) and the quality of the teacher and/or tutor, to assist in the delivery of the material that is provided by the system. The teacher/tutor most immediately relevant to most children is their mother. I could not agree more with Jan when she said if you ask most of these children 'Who is your teacher?' their reply will be 'Mum'. They realise they have a teacher at school of the air and/or a marking teacher in the correspondence school and so on, and as they grow in the system they realise there are several people to whom they have to relate. But overwhelmingly the first point of reference is 'Mum', which puts the learning context squarely at the centre of the family.

I reacted with some surprise to the rediscovery of the wheel - that distance education along with every other form of education involves 'interaction'. This to me seems so basic that I was surprised how often it was referred to. Apart from the interaction between student and home tutor, interaction between student and the distance teacher, interaction

between the student and his/her peers, interaction between the home tutor, the teacher and other home supervisors is essential. There is no doubt that where the home tutor and the student have access to the support system by verbal interaction the benefits are immense. And this is the area in which ICPA as an association envisages the new technologies assisting. My own primary correspondence experience pre-dates even the Alice Springs School of the Air (SOTA) which was the first in Australia, and I have watched my four children have the benefit of the school of the air system. The difference it has made to their outlook, to their confidence, to their ability to converse (and communication is the basis of all we do) is immense. If we cannot communicate with people properly, and accurately, are unable to describe our experiences, to talk to one another and get our ideas across we are much the poorer for it. SOTA assists them in their social interaction with other children. I remember the first mini-school my eldest boy went to. He had spoken to his class mates on the air and knew them as voices but had never seen them physically. Within five minutes of getting together those kids were away and playing. I remember my own childhood, where on the occasions I did get together with children of my own age, such as a bush race meeting, we would be like a pack of country dogs, circling each other for a half a day and only by the time to go home starting to get to know each other. Interaction is fundamental to educational communications.

Obviously the use of technologies raises the question of delivery costs. And this is relevant not only with new technologies, but also existing delivery systems. For many years there has been the misunderstanding that the traditional correspondence system based on delivery of written materials through the post was a cheap system. It is not. Because of the personnel requirements that are needed for delivery of the printed word to be effective, costs are high. As we heard this morning many skills other than those of 'pure' teachers are necessary - artists, lay-out specialists, experts in colour production and printing are involved, plus extensive printing costs. There are less students per teacher to be able to adequately mark the work. It is not a cheap system. But we cannot walk away from the fact that if the systems are to provide an adequate education through the distance education medium, the cost must be met. Certainly rationalisation of priorities must be undertaken, but I do take exception when I hear of the 'subsidisation' of the cost of providing rural and, in particular, distance education. The fact that it may cost four times as much to deliver the same article in the Pilbarra as it does in Perth should not invoke the word 'subsidy'. If we are looking for equal outcomes from education there is no way that putting the same amount of money in at each and every place will suffice - particularly in states as big as the ones we have here in Australia.

As a parent group we in ICPA take pride in having been the 'prodders' in getting the systems to initiate many of the new additions to distance education - the mini-schools, camp-schools, supervisor seminars and the addition - but as Jan Gall pointed out - not always the 'integration' - of audio visual aids. Some parents are a little dazzled at the variety of services and personnel available and where their priorities lie because of the necessity to allocate time away from the written lessons.

Jan also highlighted 'central' versus 'local' autonomy, and the 'integrated' approach versus the 'team' approach that Des Eastment referred to. From my exposure to mother/tutors through ICPA and a

personal reaction from observing my own children, I would thoroughly agree with Jan's summary that in the 'team' approach the child has too many reference points and becomes confused. I believe the 'integrated' approach to delivery is superior. This occurs where the child has only the home tutor and marking teacher to refer to and the latter *also* fills the role of visiting/itinerant teacher. This becomes even more meaningful when the marking teacher is based at a SOTA so daily interaction is possible. Children, like many adults, love 'belonging' and a spread of too many contact points in the system makes this difficult for the child and may confuse the mother/tutor as to which is the primary source of advice.

Relevance of curricula is very difficult to deal with. I mentioned earlier, 'Who,and What are we educating for?' and people in the bush through our association have expressed the view that the prime responsibility, certainly in primary education, is to have children who are literate and numerate so they may approach their secondary education confident that they have a sound basis from which to work. 'Micky Mouse' courses, referred to by Brian Gaines*, have no place in primary education if we are to be just to primary age children. We are, I believe, trying to end up with children who are literate - in other words they can communicate verbally and through the written word, and can add up, subtract, divide, multiply and then *apply* those skills to other subjects as they come along. Social studies, sciences, history, geography, technics, and so on, whatever area they move into are dependent upon these basic skills. I have seen children in country areas leave school at the age of fourteen and fifteen who cannot read or write. They do not have 'functional literacy'. I don't care what any Minister of Education says, that is a tragedy which should not, but does, happen. I believe the distance education system doesn't let it happen, and neither should it because of its personal nature.

I do believe in looking at education that is relevant for rural areas as there is great benefit to be had in moving from the particular that the individual student knows in his own environment out into the general and so encompassing the wider world. Many of us in ICPA, and in the distance education centres, have heard the likes of: 'What is the use of teaching our children about four seasons? We only get two seasons up in the Gulf'. The distance education systems must not pander too much to such local parochialism. What should be done is to take the opportunity and say 'Right. You live in a unique environment. You have only got two seasons, the wet and the dry: you hope they follow as they normally do because if you have too long a dry or too long a wet you are in trouble. But you should realise that there are parts of the world where they do have four'. In fact only recently there was a very good program on ABC television on the Kakadu National Park, in which it was pointed out that as far as the Aborigines are concerned *there are four seasons*. And no doubt many people who live in the north do not realise that deeper perception of their local climate. But that sort of thing needs to be grabbed hold of - you take what is relevant locally and work on it, but then also point the children to the broader world because, referring back to my original point, we are trying to educate children who can take their place in society regardless of geography. I do not believe that education of itself will be the cause for people to move out of rural areas and go

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* See p.16

elsewhere. That motivation comes from either economic pressures, personal impetus, or personal desire to do something apart from the environment in which they grew up.

Finally, I was delighted to hear everybody endorse sharing across systems. One thing that has been impinged on our consciousness as a national association is the regretable inward-lookingness of state education systems in Australia. They do not look over their borders to see what is going on. We do need to share, we do need to learn from each other because there is much going on in each state that can be available and be used and altered to suit different contexts and can really be of benefit to everybody involved in distance education.

Workshop Report

Day One: Wednesday, July 13, 1983

Theme: Producing and Using Curriculum Materials

ISSUES CONSIDERED

Catering for the educational needs of rural dwellers

Distinction was made between 'basic' needs and 'special' needs. Basic educational needs were defined loosely as knowledge and skills deemed necessary for effective participation in the Australian community (literacy and numeracy were regarded as universally essential competencies). The special needs related to perceived educational disadvantages which accrue from social and cultural deprivations in some rural areas. The single most important disadvantage for those children who study through distance education was identified as their separation from an extended group of their peers.

These two sets of needs establish different requirements for curriculum. The first is for a 'core of curriculum' offering a similar program for all children, regardless of the geographic location of their homes; the second is for groups of educational activites, integrated within the curriculum, which compensate for areas of deprivation. These vary among individuals and groups (curriculum developers should avoid rural stereotypes). The educational deficiencies for most children studying by correspondence were seen to include:

- restricted opportunities for social interaction;
- inexperience in the organization of lesson time to complete tasks within a controlled period;
- inexperience in the conventions and disciplines of cooperative group work (especially those related to classroom management and organization);
- limited opportunities for the development of listening skills;
- limited opportunities for the development of habits of independent study (in particular, library and research skills);
- restricted awareness of career opportunities and occupational alternatives; and
- a limited curriculum which excludes art, music and cultural activities.

It was proposed that these needs cannot be met only by restructuring curriculum content. The whole process of distance education must be considered and modified to meet particular needs. Compensatory strategies which might be adopted, or extended to all systems, include:

- regular participation in correspondence and school-of-the-air camps (the social and educational benefits of camp schools, mini-schools, musters, mobile classrooms, and so on, were commended). It was recommended that these be maintained on a regular basis, and that all distance education students should be given opportunities to participate;

- promoting regular, personal contact between distance education teachers (not just itinerant teachers) and their students;

- extending the use of video-taped curriculum materials, teleconferencing, and interactive communication through radio;

- encouraging the use of library services (for audio and video as well as print materials);

- extending the availability of extra-curricula activities which are now provided in some regions through the Commonwealth Schools Commission's Country Areas Program (variously designated in the states as PCAP, PCEP, and so on). These include itinerant art and music teachers, touring music and drama groups, mobile manual arts and crafts workshops, and so on; and

- preparing and distributing personalized newsletters and school magazines.

The needs of exceptional children in rural areas were addressed. These children include:

- the intellectually gifted;

- those with special talents in areas such as music, art, and the language arts;

- the educationally handicapped; and

- the learning disabled.

Curriculum materials and distance education strategies for these groups of children are not generally available (some states cater for special education, but their emphasis generally is on remediation and the needs of physically, intellectually and sensorily handicapped). It was recommended that the needs of exceptional children be investigated.

Curriculum lag in distance education

Concern was expressed about the lag between innovations in general policy and practice for primary and secondary education and their incorporation in curriculum and learning materials for distance education. The lag was seen to have resulted from the combination of:

- the low priority which some authorities have afforded distance education in the competition for resources; and

- the adaptations which have to be made to cater for the distinctive nature of learning materials, instructional strategies, and methods of delivery in distance education.

The process of curriculum development and evaluation which must be followed whenever there is innovation in education means that the introduction of new courses for distance education can be delayed for up to five years or more. While this protects distance education from the worst excesses of educational trends and the consequences of too much change too often, it can:

- contribute to discontinuity in courses for which sequential learning is necessary (particular reference was made to mathematics);

- lead to disjunction between distance education and conventional schools curricula because superseded courses have not been replaced; and

- disadvantage students who transfer between distance education and conventional schools (this is particularly troublesome in transition from primary to secondary education).

It was recommended that additional resources be allocated to distance education to upgrade outmoded courses and learning materials. Priority should be given to:

- subjects in the core curriculum for which sequential learning is the norm, notably mathematics and science;

- subjects for which adequate curriculum materials have not been developed, in particular music, art and physical education; and

- subjects which are necessary for coping with new developments in secondary and post-secondary education, notably computer studies.

It was considered essential that there be coordination between curriculum review committees within the education systems and distance education authorities. For example, distance education teachers might be invited to join or consult with such committees, and innovations in core curriculum might be trialled in correspondence schools and schools of the air. Within the distance education system there should be similar cooperation between distance education teachers, curriculum writers, and home tutors in the development of new materials.

Using standard learning resources in distance education

Standard learning resources (that is, text books and learning materials prepared for conventional classrooms), were regarded as generally unsuitable for distance education. This varies among subjects and according to the age of the student (or the student's competence as an independent learner), but standard resources usually have to be modified or supplemented. The major shortcomings identified were:

- delay between the adoption of standard resources and their widespread use because of the time needed to write and produce supplementary materials;

- problems of copyright where the text has to be modified;

- costs of purchase, to the schools and to the families, are sometimes excessive when compared with costs of materials produced expressly for distance education;

- explanatory notes, or teachers' guides, have to be prepared to assist home tutors in the use of standard learning resources.

Using standard learning resources might be a false economy. However, as an interim measure in some subjects, and provided that adequate supplementary materials are distributed for student and home tutor use, they might be a means of overcoming the lag in curriculum materials for distance education.

If standard learning resources are used, particular attention should be paid to the needs of the home tutor. Classroom teachers usually select from the materials available to them those parts and those activities which they consider appropriate for their students and the educational objectives of the curriculum. A good teacher supplements standard materials with others, for enrichment or for better approaches to specific topics. Home tutors often lack the professional knowledge and experience (or even the confidence) necessary to make such adaptation. It is essential, therefore, that comprehensive advice on the use of standard materials be offered.

Providing for the differing needs of students, home tutors and teachers

The key words that emerged from group reports on methods of providing for the differing needs of students, home tutors and teachers were 'flexibility', 'awareness', and 'communication'. Frequent and open exchange of information was deemed to be essential.

It was suggested that curriculum materials should be adaptable to the circumstances of individual children. Not only should allowances be made for individual differences in achievement, rates of progress, and styles of learning, but the geographic, seasonal, and domestic variables affecting the child's performance, the rates of return of lessons, and the amount of time which can be set aside for supervised lessons, should be acknowledged. Flexibility was regarded as of the essence in distance education, but if maximum advantage is to be taken of it, teachers need to be aware of the individual circumstances of their students. It was strongly advocated that, to ensure that teachers are aware, they should visit the children in their homes. Continuing dialogue between home tutors and teachers should be encouraged.

Whenever new learning materials are being developed, it is desirable that course writers visit the homes of students so that they might appreciate the circumstances in which the learning is to occur. Wherever possible, experienced home tutors should be enlisted as consultants for course development. Unlike conventional classrooms

where the learner comes to structured materials in a structured environment, in distance education the structured materials are delivered in an often, in educational terms, unstructured environment. Therefore, provision should be made in curriculum materials for the local circumstances of the learning. To evaluate their effectiveness, new materials should be trialled in the homes in which they are to be used.

Particular reference was made to the needs of home tutors. They are disadvantaged by limited direct contact with distance education professionals and the supportive benefits of sharing information with each other. Their needs might be catered for by:

- the preparation of teaching notes to accompany curriculum materials;
- handbooks which show the relationship of parts of the curriculum to each other and the whole distance education program, offer advice on coping strategies, provide information about learning resources and support services, and so on;
- advice from teachers when lesson sets are returned after marking; and
- seminars at which information can be exchanged and advice offered on aspects of curriculum content, the organization and integration of lessons, teaching strategies, and problems of coping with teaching and learning at a distance (these might be supplemented with regular teleconferences or on-air sessions through the school-of-the-air network).

Just as there are significant differences among children, so too are there differences among home tutors - their previous education, experiences with distance education, intelligence, confidence, inventiveness and adaptability, and so on. Because the home tutors are mostly untrained and bring difference experiences and capacities to their task, curriculum materials should be accompanied by tutor's notes which can be understood and acted upon by persons of all levels of ability.

Interstate sharing of curriculum materials

It was recognized that each of the states and the Northern Territory has adopted different priorities in curriculum development. Some have concentrated their resources on the development of mathematics materials and others language arts; some have considerable experience in special education and pre-school education and others have moved into these areas only recently; some have high-quality materials for arts and crafts and others have not. Because there is a rich array of materials available, it was recommended that the states and the Northern Territory should pool their resources to enable the maximum use of available curriculum materials in a cost efficient way.

PART II
Delivering Curriculum Materials

Human Support Systems of the Western Australian Distance Education Centre

PATRICIA HUBBARD*

Vulnerability of our students to their own fears and misgivings is the major reason for the extensive support systems provided by the Distance Education Centre for its students.

For convenience I have divided our manner of support into six areas, but as you are all aware each overflows the other and is itself an appendage or nucleus of at least one other group.

SOCIAL INTERACTION

Ways of social interaction are necessary to bridge the psychological and/or geographical isolation which most of our students experience. At the commencement of the academic year, each new student in Years 11 and 12 is invited to an orientation camp conducted in the second and third week in February at Graylands centre. The majority of these students are attempting education by correspondence for the first time. The main theme of this camp is to establish contacts with their future subject teachers, so that on their return home when they telephone, from Kununurra or Boyup Brook, they will feel relaxed and be able to ask for the help they need.

During this fortnight use of the written materials, audio visual equipment, reference library, mail service and telephone are explained. The students plan their timetables and a learning program. They are asked to consider their goals and ways of attaining their targets. We discuss careers they show an interest in, whether there is a job market in those or related ones today, and if they have the ability and motivation to attain the levels required for entry.

Socialization with their peers and the realization they are not the only isolated student always boosts their confidence. The link between themselves and their regional tutors is soundly established.

* Patricia Hubbard, Teacher, Distance Education Centre, Education Department of Western Australia

In March camps are run for the lower secondary students and the primary students, to act as a catalyst to the students' lessons and their awareness of each other. Throughout the remainder of the year the lower secondary and primary camps are held in regions where there are sufficient students able to congregate to make them viable, for example the Kimberleys, Pilbara, or the Eastern Goldfields.

In August an upper secondary camp is run for all Years 11 and 12 students to consolidate links, learning programs and consider the best options for the following year.

Following the camps at the commencement of the academic year, regional teachers, accompanied by a teacher from a different subject area, endeavour to visit each student, school age and adult, in her/his region, at home, work or a mutually agreed area. Metropolitan students are not included on these visits, as they are encouraged to come into the centre and discuss their problems with their teachers.

Often this first physical contact is the necessary stimulus to overcome the adult student's fear of inadequacy in an academic field they might have abandoned five, ten, fifteen or more years ago.

Further regional visits are undertaken in July and October to welcome new faces - enrolment occurs throughout the year - encourage existing students and clear away some of the stumbling blocks. So for every school age student there is a minimum of four physical contact times with personnel from the centre.

For metropolitan students group sessions are held at the centre, at mutually agreed times particularly in subjects requiring laboratory sessions - Biology, Chemistry, Human Biology, Physics and Physical Science. The English teachers hold group sessions to encourage the exchange of ideas and discursive techniques. Regular visits by teachers are paid to students in hospitals, institutions, or the disabled at home for specific academic reasons and for general support.

The school age students on visits to Perth are taken to the theatre, lectures and restaurants, to encourage a group identity among them. All students are encouraged to visit us individually. This contact is maintained long after they cease to be our students and have moved into the work force or into further studies. Whether it be to take them to their job interview, entrance to a school or tertiary institution or just hold their hands while they buy presents for their family, we are often their only close link in Perth.

This social interaction is epitomized in the Transition Scheme which began in 1981. A three bedroomed flat on site at the Distance Education Centre has a housekeeper in residence. From eight to ten students are invited to stay at the flat, usually for a fortnight. During the fortnight study seminars are held, one-to-one contact with subject teachers is timetabled, career counselling and development of a saleable vocational skill are made available, shopping for self and family, social outings undertaken, and often a one week work-experience, in an area chosen by the student, is organized. This 'transition' time is also used for visits, and even enrolment, at the student's future school. Interviews for the

resident colleges at the tertiary institutions are held towards the end of the academic year. The teachers involved on these occasions are surrogate parents, even to the extent of the students staying in their homes. They transport the students, endeavour to broaden their outlook and develop a set of work values as part of a personal value system.

INTELLECTUAL STIMULUS

The oft-cited advantage of 'flexible study pace' in correspondence studies is too often the downfall of isolated secondary students. We have found it essential to encourage the students to establish clear goals, to discuss, at length, an appropriate study pace to suit their circumstances, and a realistic expectation of work output over a given period.

Our written unit material is the students' major intellectual stimulus - it must not be transposed on-campus material. There are course writers on staff who are constantly endeavouring to present material in the most palatable manner, and in a variety of forms, audio tapes, slides, film-strips, short self-test questionnaires - all reinforcing the unit work. Instructions must be simple and as far as possible activity orientated. It can be a long dull lesson which excludes the pertinent comments from classmates.

Students who return to academic studies after several years often under-estimate their ability, and have erroneous ideas about standards required. We have many mature-age students terrified of submitting their first assignment for fear of making fools of themselves. They have to be coaxed by phone or letter or tape to submit that first written piece of work as soon as possible. When it is submitted immediate response from the teacher is essential. Once this major hurdle is taken and encouragement received from the teacher the next units are easier to begin.

A reference library of books, tapes, slides, filmstrips, pamphlets is available to all students. Many of the work units are accompanied by audio tapes and practical kits. Primary and lower secondary students are supplied with arts and craft materials, science equipment and portable chemicals, a sewing machine for those taking the Home Economics option, and instructive games. It is hoped to expand this service in the future with more visual support items.

Teachers send personal messages on tape when returning work to their students, who in turn use the tape to further their queries and expand their understanding.

At the other end of the spectrum we have students who find the academic level of the course beyond their ability. These have to be carefully counselled and alternative courses suggested where achievement and personal satisfaction can be greater.

The group sessions of the mature age students at the Distance Education Centre often rationalize for them their hard work and precious time devoted to their studies. Attendance at plays, lectures, conferences and geographical excursions related to the course are all encouraged. Three Year 12 students recently attended the ANZAAS conference in Perth.

EMOTIONAL SUPPORT

Emotional support permeates the entire scheme and is a major part of each teacher's relationship with students. The difficult circumstances under which many of our students attempt their studies must be taken into consideration with regard to quantity of work expected from them. Primary and lower secondary students are sometimes travelling in caravans with their working parents; others are travelling with their parents on long service leave. An upper secondary student may be the only one in the town attempting studies beyond Year 10. Her peers belittle her efforts and she has no intellectual discussion to feed her mind. In extreme cases there is little parental support. Some consider the studies can be done after a day's work in the shop or on the farm. Girls expecting babies and attempting to keep up with their peers in their studies require a lot of compassionate support. Children who have survived bad accidents, psychological traumas or marriage break-ups often are only looking for a compassionate shoulder on which to lean for a short time.

Parents who wish to help their children in their studies sometimes need convincing that they are capable of fulfilling this role, and just need a little pointer of the best way to assist their child.

The transition students are again a special group - working, perhaps in Perth city, away from their family for the first time - who need to meet you for lunch, a coffee or just a chat. Others who have entered into higher studies invariably find the first semester difficult. They hit a bad patch and need an encouraging smile or a shared joke just to get them round the corner. The ramifications are endless and the time is never enough.

IMPRACTICAL EXPECTATIONS

Impractical expectations and unrealistic goals can be highlighted by gentle counselling. Realistic assessment of personal ability and the standards required of the course only come with a little persuasion. Learning to avoid pitfalls and making the most of their talents are part of the developing relationship between the student and teacher. Teachers help their students in the organization of their available study time. A number of our students are single parents working at full-time jobs and trying to further their education. Sometimes their weekly output is only half of what they would like it to be. They must be made aware there is no stigma attached to taking twice as long as they expected. They must not be allowed to get worried and feel guilty if they are unable to get their assignment done because of their children's illness. There is no dead-line to which they must conform. Encouragement is an absolute.

A few of our school-age students are at the stage of questioning their families' beliefs. Our aim is not to minimize their quandry, but to place it in the context of their overall development, the world as they see it, and highlight the positive aspects of taking a moral stand on everyday events.

PRACTICAL SUPPORT

Practical support is given in free supply of the units and materials which accompany them. Face to face tuition at the centre - remedial sheets, extended work for the gifted ones and so on.

Enquiries are made, on behalf of the students, as to minimum aggregates necessary for entrance into specific tertiary faculties. Advise is given on available assistance schemes and how and when to apply for them; possible local school help; where to sit that all important examination; and changing patterns of jobs available. Employment files, which contain hints on job application, letters, telephone techniques and best possible way to present themselves are supplied to all TRANSITION students. Happy birthday messages sent to show we care. Contacts are made by regional tutors on their visits with the local business people, Rotary, Lions and other clubs. Perhaps they can help our student in the future.

The diversity of our human supports are infinite but then so are the needs of our students.

The future requires more people, more time, as research has shown that the attrition rate decreases with increase of human contact.

We must care for people.

The Teaching Mother

JOANNE HAMILTON*

The last thing I would ever have imagined doing when I first went to the bush was standing up here speaking to you about what it is like to be a teaching mother.

As a young bride at Landor, 160 miles from the nearest school, I was confronted with the thought that I would one day have to teach my children. I was tremendously relieved when we moved to Nallan. It was relatively close to Cue and I thought I would be able to do what my husband's aunt had done before me - drive the children in and out to school. As things turned out, this didn't happen and I found myself in the schoolroom.

Mothers in the bush are in the position of having to teach their children, or at least taking the responsibility for their education by finding the right governess. This can be particularly traumatic. One mother I knew just hated school. When she left at fifteen she promised herself that she would never have anything to do with school or books again. But then she found herself with school-age children who had to be taught. There were economic problems, they could not afford a governess. Her husband was away shearing so she had no moral support, and on top of that she also had to do the mill-runs.

Even though you have your lesson papers and school of the air, the responsibility for the children's education falls entirely on the mother.

CONSEQUENCES OF NO TRAINING

When I first started I was most apprehensive. It was the first day. I was up at five, had all the housework done by seven ready to start. By nine o'clock we'd finished the set work. Nicky, my son, was so let down. We had been building ourselves up for the big day and it was all over!

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* Joanne Hamilton, Nallan Station, Cue, Western Australia

Due to lack of training, we were unable to extend sideways or know what to fill in with because we didn't know what the course was leading up to. That also applies when lesson papers are held up in any way by mail delays or printers and explains why we get so upset when the set work is late in arriving.

As you don't know what to expect of a child at that level, your expectations are often too high. For instance, if my children could not grasp the concept first off, I thought they were as thick as two short planks, whereas anybody with any training knows that you introduce the concept, then follow up and reinforce.

The early years are easy. By the end of Grade 1 the child has passed the year with flying colours, and you feel pretty satisfied with what you have done with this child and that those early apprehensions were all unfounded. Until the years go on and the work gets harder and the child isn't coping so well. You begin to doubt your own ability as a teacher and blame yourself for any failures. The problem is compounded when the child has real learning difficulties and the mother is convinced that it is her fault that she cannot identify them.

CHILDREN'S ATTITUDES

Children will try anything on you because you are a mum. I remember the time that I was explaining some mathematical concept to Sonya. I had gone into quite a long and involved explanation of how to do long division and at the end of it, to my exasperation, Sonya suddenly tapped me on the shoulder and said, 'Just look at that bird, Mum. I've been watching him build that nest and now he's nearly finished, and I think he's putting in a bit of wool off the lawn.' They would never do that in a conventional classroom. There are so many times that I can recall when I wish that I had laughed instead of losing my temper. I think it is because they are your children that you take them so seriously. If they had been anyone else's, you would have laughed.

It helps to have a sense of humour. Out of the blue one day Nicky asked, 'Did I like teaching him school?' Sonya stopped writing and listened expectantly. I looked Nicky straight in the eye and said that there was nothing that I loved more in the world than to teach him school. He actually believed me, and for the rest of the day worked with real enthusiasm. I told the story at a seminar and another mother (who was dreading going back to teaching) was so inspired she told he son, Stephen, 'I really like teaching you, Stephen', whereupon he promptly retorted, 'Well, I don't like being teached!'

If it can be managed, I do feel it more advantageous for the mother to teach rather than a governess because she knows what the child is being taught. However, there are situations where a governess is essential, such as with a large family or if relationships are becoming a bit strained and you need a year off to make friends with your children again.

It doesn't always help being trained. One mother I know did the whole bit with a neat little story to introduce the phonics just as she had been trained to do. As she went along, her six-year old son interrupted with, 'Aw, Mum you're making that up as you go along'. Mothers are not

really taken seriously as teachers and the children don't always listen because they grow tired of the same voice year after year. At a conventional school, they have a new face and a new personality and a new approach each year.

Children's attitudes are important. A child alone can feel mortified and inadequate if he makes a mistake because he doesn't realise that other people make mistakes too. One little boy who was the first member of the family to start school felt embittered and hard done by because he was the only child in the whole world having this inflicted on him. Everybody else was outside playing or helping Dad. Children's attitudes are also affected by those of their father. They love to read their stories to him or to show him their work. If he responds enthusiastically, it makes them feel that school is important. It also helps to compensate for not being able to be out helping Dad if the children think that he considers education is important.

SCHOOL OF THE AIR

School of the air can be very supportive for teaching mothers. Its value is determined largely by the individual teachers. With a few, I would say it is of little benefit regarding lesson content. With the majority, the children and parents can be really enriched and stimulated. School of the air gives a feeling of belonging to a school. It also provides the necessary social interaction which is vital for isolated families.

ITINERANT TEACHERS

A mother can feel so alone with her real or imagined problems. Sonya had been in school for six weeks when the itinerant teacher called and said he'd test her reading. I said she hadn't learnt to read yet, whereupon be breezily assured me that it didn't matter, he could get a pretty fair idea anyway. A short while later he came in and told me there was nothing to test because there was nothing there. I went with him into the kitchen and asked Sonya what that letter was. She couldn't remember, so I told her, '"K" and the sentence says "Ken and the Kangaroo!" Now what's that letter again?' She thought. She cast her eyes upwards. Looked out the window. 'Don't tell me, Mum, it's on the tip of my tongue...ummm.' Finally I said, 'It's "K".' 'Oh yes!' she exclaimed, 'how stupid I am', clutching her hair like Sarah Bernhardt. Then the itinerant teacher said, 'I think she needs specialised help.' I got hold of a house girl and for the next three or four months, Sonya and I sprawled on the floor by the front door and learnt reading. It was such a relief when the next itinerant teacher came and was able to reassure me that there was nothing wrong with the child at all and to stop worrying. I was doing all right.

The itinerant service is one which I feel must be continued. I also feel that the ideal situation would be to have the itinerant teacher attached to the school of the air as a support eacher, so that the school-of-the-air teacher is able to do some of the visiting and the itinerant teacher some of the teaching on air and marking of papers. I would also like to see the itinerant teacher with some remedial training, as most of the children they are called upon to visit are the ones who need this specialised help.

CORRESPONDENCE LESSON PAPERS

As a teaching mother, I feel that the correspondence lesson papers are the most vital part of the whole education system for our children. If the radio breaks down, if the mails are delayed, and if the itinerant teacher is unable to visit, we still have those lesson papers to carry on with.

The lesson papers should be designed to make things easier for the teaching mother. Imagine, for instance, a situation where you have planned your day to a timetable, when visitors arrive and you have to leave the schoolroom to make unscheduled cups of coffee which disrupts the lesson in hand (often at a crucial point), and this can happen only too often. Therefore, it is vital that the instructions on the papers are clear and concise and geared to the children as well, so that they can carry on without your having to be there.

DISCIPLINE

Discipline plays a significant part in the smooth running of the home. School must fit into the way of life and the present system in Western Australia is so wonderfully flexible that it fits into our way of life very well. This has to be. We would hate to see the school-of-the-air lessons become so integrated with the lesson papers that this flexibility would be lost. There are many occasions when a family in our situation cannot avoid missing a school-of-the-air lesson, but the set work can still be done at weekends or during the school holidays. Because of the commitment of the mother to the family business, this is the only way it can work.

CAMPS AND SEMINARS

Because the population is thinning in the bush, the camp schools are providing an increasingly important role in bringing children together. Play is recognised as an important part of a child's development, and this reason alone would justify them, but they provide much more than this.

Seminars lessen the feeling of isolation of teaching mothers, show them that they are not alone with their problems and stimulate fresh enthusiasm. One mother in particular was dreading the commencement of school, anticipating personality clashes with her daughter, but after attending a seminar, she came away really looking forward to it.

CONCLUSION

When I was persuaded to speak at this workshop, I must admit that I found the title rather baffling. It read as if I am a human supporting system. I don't see it this way at all. I see the teaching mother as most important, because no matter how good the lesson papers are and how good the school-of-the-air teacher is, if the mother is not coping or does not take the responsibility, the parcel of lesson papers is not opened, the radio is not turned on, and that child is not taught. Therefore, the system should give first priority to supporting the teaching mother. In spite of the hassles, the problems that crop up, we are still very lucky and privileged to be able to teach our children.

The Itinerant Teacher

FRED HOCKLEY*

Unlike most other schools of the air in Australia, the two operating in the Northern Territory - one at Katherine situated approximately 300 km south of Darwin and the other at Alice Springs, which is located central to all of the beaches in Australia - are in fact responsible for the whole educational service offered to their isolated pupils. That is, they undertake a dual role - being both correspondence schools and schools of the air.

In essence, our two schools of the air provide what we would regard as possibly a total service. Each is responsible for the writing, printing, distribution and marking of its own correspondence materials based upon the Northern Territory Department of Education's Core and Recommended Curricula; each purchases its selection of commerically-produced materials independently; each organises patrols to its students; each has its two-way on-air radio lessons; each undertakes to organise and arrange student activities such as in-school classes, sports days, gymkhanas, field days, excusions and camps. From a historical perspective, the two schools have developed quite independently, especially in regard to their respective educational philosophies.

This prologue is, I believe, necessary in setting the stage for a description of the Northern Territory schools-of-the-air version of that 'human support', the itinerant teacher.

It is my belief that the role of the itinerant teacher is much underrated, and that the selection process of the persons to undertake that role could receive less than its fair due by those empowered to make teaching appointments, specifically because of a lack of comprehension of the complexity of that role. You will understand that I cast no criticism upon any present or past itinerant teacher. On the contrary, I have nothing short of the highest regard for those chosen to carry on this most difficult task. I simply put it to you that the person selected to visit and support isolated families living and working in such divergent situations requires wide educational background and experience to positively maintain that support.

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* Fred Hockley, Principal, Alice Springs School of the Air

So, who is the best person to visit pupils in isolated situations? With regard to the Northern Territory schools of the air, I have already mentioned the dual role of these schools.

We maintain that the best person to visit the child is the child's teacher. Experience has shown that it is most effective and educationally valuable for a pupil to meet on home ground the person who speaks with him every day on radio, plans his correspondence program, corrects, assesses and comments upon each returned set of work, instructs and guides his supervisor at home in the best way to assist in the child's program, meets him during visits to school of the air, and generally is looked upon and identified with as his special teacher.

It is therefore a requirement of appointees to teaching positions in our two schools that they will go on patrol as and when required, and that they will visit each of the students for whom they are responsible at least once during the year at the home location.

In essence, all Northern Territory school-of-the-air teachers, school librarians and principals included, are 'itinerant teachers', and should expect to be on patrol, on average, up to 30 days per year.

This task of 'patrolling' or visiting our pupils' homes is not an easy one. From my own experience as a visiting teacher, I have come to understand some of the complexities of such a role.

Let me outline to you some of the tasks that I have undertaken at the students' homes.

Firstly, providing support for the pupils, by:

(a) ascertaining that the school's curriculum materials are being used correctly;

(b) checking that all supporting materials are available and being used;

(c) providing remediation when necessary;

(d) developing a personal relationship with the pupil by entering into some of the child's home activities;

(e) providing the stimulus for the child to visit the school.

Secondly, providing support for parents, by:

(a) giving professional assistance in all areas of remediation, and child behaviour;

(b) being the 'fix-it' man, especially with regard to transceivers and video recorders;

(c) being a contact with the outside world;

(d) being a different face to talk to;

(e) being a shoulder to lean on;

(f) being a sounding-board for ideas.

Thirdly, providing support for the governess or home tutor, by:

(a) understanding the effects of isolation on young inexperienced people in particular;

(b) being available for confidential discussions when required;

(c) demonstrating teaching techniques and supervisory procedures.

The schools' present mode of operation calls for a very close relationship between the pupil and the class teacher. This fact is the basis for adopting the policy of sending teachers to their own pupils.

We require that before any patrol is commenced, the teacher should plan the program to be undertaken in the home classroom.

The nature of the program depends on assessment of the pupil's correspondence work, performance in radio lessons and information gathered from the supervisor concerning the child's progress. Observations of the supervisor with the children, conducting demonstration lessons, testing for reading, spelling and mathematics ability and diagnosis of learning difficulties form the substance of the program.

Accordingly, we would submit that without such a patrol program, one vital function of our school would not exist - that is, the evaluation of student progress in a face-to-face situation.

We would also hold to the view that the best person to prepare curriculum and correspondence materials is the one who has had first-hand experience with the delivery of those materials, and the evaluation of their educational worth.

Curriculum writing and updating for correspondence materials in our schools is the responsibility of the school delivering the services. While our Professional Services Branch and specialist curriculum writers are able to assist, it is our task to ascertain that the supervisors who are recipients of our services can fully comprehend our curriculum requirements, and can as a result positively support the student at home.

Such a task is ongoing, with both teacher and supervisor evaluation guiding us as to the effectiveness of current programs, and possible future directions for our curriculum offerings.

At present, there is under way a joint curriculum writing program involving our two schools in the area of Social and Cultural Education at middle and upper primary levels. Participants include professional curriculum writers, subject specialists from Professional Services Branch, class teachers, parents of school-of-the-air pupils who were formerly teachers, and graphic artists. Our major aim is to update or rewrite our curriculum offerings in line with the Northern Territory Core and Recommended Curriculum requirements. The task appears almost

monumental in stature, and will not be completed in under five years. But a positive aspect of such an approach is the direct feedback which we receive from the parents and supervisors about the relative strengths and weaknesses of our programs when applied to the isolated student.

We often receive that feedback by meeting and discussing with supervisors at the schools, or from supervisors' comments written on the students' fortnightly reports. But we are more likely to encounter these comments, and real problems, when visiting our students in their home environments, where parents are more likely to be open and forthright in what many of them would regard as a neutral or less authority-oriented environment.

This is a major reason why we believe that the combined role of our school-of-the-air teachers, while being a time-consuming and exacting one, works ultimately to the benefit of the student. It is also the reason why the selection and appointment of teachers to our schools is so crucial, and this refers directly to my earlier comments about the selection process of the itinerant teachers. The itinerant teacher sees at first hand the effect of the application of curriculum materials in the isolated situation.

He can determine the value or efficacy of much of what others in more comfortable surroundings have deemed to be 'right'.

The itinerant teacher, I would suggest, is the school's vehicle for maintaining that necessary consciousness of the limited experiences often available for isolated pupils, as well as the limitations of many people actually supervising the pupils' daily activities, not necessarily because of academic inadequacy as much as the pressures of their everyday responsibilities.

Satellites and Education

DON KENNEDY*

The paper is intended to look briefly at the needs of individuals and groups of persons in the community who, because of a number of reasons, including isolation, are unable to attend normal scheduled classes.

Amongst these groups are external students to the universities, colleges of advanced education and technical colleges, and correspondence students (including school-of-the-air students).

The paper discusses how the National Satellite System could provide the means of linking them to educational sources. Included in the discussion is a description of a typical satellite system and budgetary costs.

OVERVIEW OF THE LEARNING PROCESS

The Students

There are many people, either individuals or groups, who want to be educated but are unable to attend normal scheduled classes for a number of reasons, including isolation. Among these groups are external students to universities, colleges of advanced education and technical colleges, and correspondence students, such as school of the air students. The National Satellite System will be able to bring together students and teachers even when separated by a considerable distance.

The optimum learning situation brings together a well motivated student with an enthusiastic teacher in a situation where they can discuss problems face to face.

The Lesson Reference Material

The student must have access to course material, which may take the form of one or more of the following:

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* C. Elston and Don Kennedy, AUSSAT Pty Ltd., Sydney.
(Presented by Don Kennedy, Systems Manager)

RC 014481

(a) text books (which may omit some topics and are too detailed in others)

(b) lecture notes or a text book written specifically for the course

(c) an audio-taped lecture

(d) a video and audio-taped lecture

(e) data for computer aided instruction.

Once a student's inquisitiveness is aroused, be may be able to access libraries and reference material. These may not be available in many cases, but the student must be able to determine the material of use to him.

Student Motivation

In the normal classroom, the student is motivated and coached by being part of a group with feedback and comments from his peers.

An isolated student may be highly motivated but lacks the opportunity to discuss the material with other students.

CLASSES FOR THE ISOLATED

Given the foregoing overview, the possible users and methods of implementing a distance education program using satellite communications are as follows.

The Users

Education must be considered as an on-going process that is sometimes compulsory, and does not always lead to formal qualifications. The potential user of a learning system is therefore the whole population. Let's cite some specific examples:

- Children who, due to isolation, are not able to attend a regular school.
- Children at a regular school who are unable to take a particular subject due to the fact that there are not enough students to create a class.
- Children who are unable to attend school due to hospitalisation and similar reasons.
- Children who have a full school course but may wish to augment their knowledge in a particular area.
- Adults who, due to work and/or social commitments, are unable to attend formal classes. As Australia's population ages, increasing numbers of people may wish to return to education.

By having a very large group of students, the cost per user of providing an education system for those unable to attend scheduled classes can be kept to a realistic figure.

Course Material

The course material will be spread over the whole spectrum of topics from arithmetic to zoology. Some will be formal with assessment, others will be for general interest, with some for a specific purpose. Education departments, schools, universities, the media, manufacturers, businesses and other interest groups will provide input to materials and course outlines.

Reference Material

Isolated students or those not in formal learning have particular problems gaining access to reference material. As the concept of a library as a place with rows of books on the shelves is updated, technology is becoming available for remote accessing of the information held and for distributing it to students in a range of locations.

Distribution Media for Course Material

The choice of media selected to distribute course material is determined largely by the course content. An audio tape is a good medium for a discussion on English literature, but for a subject such as biology, illustrations are also needed so printed notes or video tape would be more suitable.

For a large audience who do not need to enrol, television or radio has great advantages, and the use of satellites will allow Australia-wide distribution.

Class Interaction

The distribution system mentioned above does not allow the student to query the ideas put forth or to hear other views, and additional steps are necessary for this to take place. How this interaction can be achieved over satellite circuits will be described in detail later in this paper.

Interaction can be in one of two forms:

. teacher - student;

. student - student.

Interaction in its simplest form involves teleconferencing - an audio party line where everyone is able to hear and speak to everyone else. In a more complex form there would be ability to interchange visual information with the use of facsimile, slow scan TV or computer graphics. Computer graphics should be investigated as to its cost effectiveness.

PRACTICAL SYSTEMS

Broadcasting of Materials

When considering systems for the presentation of course material, careful consideration must be given to the costing from both a production and distribution, as well as user's point of view.

The most obvious method for the presentation of course material is by radio or television with audio or video tape being used if a convenient time to access does not permit the use of the broadcasting mode.

Provided there are no copyright problems, courses can be broadcast and used directly or recorded for later use. With the advent of the satellite and the Homestead and Community Broadcasting Satellite Service (HACBSS), direct broadcasting to the home or school will be an excellent means of distribution of some kinds of material to all parts of Australia.

The HACBSS will provide one television and at least two radio channels into each of four regions (Western Australia, Northern Territory plus South Australia, Queensland, and finally New South Wales, Victoria and Tasmania). The HACBSS signal can be received directly (using small 1.5 metre diameter earth stations) and also will be re-broadcast by the ABC through their regional transmitters. It is also possible that there will be a second HACBSS in each region.

Interactive and Tutorial Sessions

The simplest interactive system combines the ability to hear other speakers with the ability to talk. This system is presently used by the school of the air with H.F. radio, which suffers from interference and atmospherics. Satellite circuits bring enormously improved quality for voice communications, providing opportunities for visual as well as verbal interaction, and for other advanced techniques.

Satellite Systems in General

The satellite provides the facility for two or more earth stations to communicate with the same clarity, whether they are located in the same city or at the opposite corners of the continent, because of the high quality radio link which can be established. There are no restrictions on the geographical location of an earth station within Australia. The antenna size at each station can be relatively small (say 2.5 metres in diameter), giving the user the option of placing the earth station at a position which is most convenient to him, whether it is in a rural or city location.

The earth station is the satellite system's equivalent to the H.F. transceiver and antenna system although the earth station operates at a frequency which is approximately a thousand times higher than the H.F. transceiver's frequency. The higher operating frequency and the new technology associated with these frequencies both contribute to a more expensive product. The costs will decrease as quantities produced are increased and the development costs can be spread over larger production runs.

The antenna system of an earth station directs the signal to and from the satellite, which will be kept at a fixed position relative to the area it serves. Unlike the H.F. antenna, which transmits and receives from all directions, the earth station's antenna is highly directional (like a large car headlight) and this contributes to the good performance of the radio link. The antenna is usually a dish, with a diameter likely to be of the order of two and a half metres for the kind of application described here, the size being a compromise between cost and performance.

The satellite system will give a performance far superior to the present H.F. system. One area in which the satellite system has a different characteristic to the present H.F. system is that only one station can transmit at the one time on a single frequency and still be received clearly. Any number of stations can transmit on the one frequency at the same time, but the received signals will interfere with each other and this is likely to produce a 'garbled' result. With a 'press to talk' system described later, the people transmitting at the time will not hear the garbled result, as each receiver will be muted, in a similar fashion to an H.F. radio transceiver.

Each transponder is the combination of a receiver and transmitter on the spacecraft and has a relatively limited capacity for communications. When considering voice channels, the transponder bandwidth is large enough for one thousand channels, but the power will only allow about two hundred active channels to share the transponder when using the earth station with an antenna size of about 2.5 metres. In most cases the capacity of the transponder will be limited by the transmitting power. The power required per channel is dependent on the information to be carried in the channel (voice, data, TV, etc) and the earth station antenna size. Increasing the antenna size while keeping the channel parameters the same will allow more channels to transmit together, decreasing the satellite rental cost per channel, but of course the larger antenna will increase the earth station cost. In other words, there is a tradeoff between satellites and earth station costs which needs to be calculated to design the most economical system.

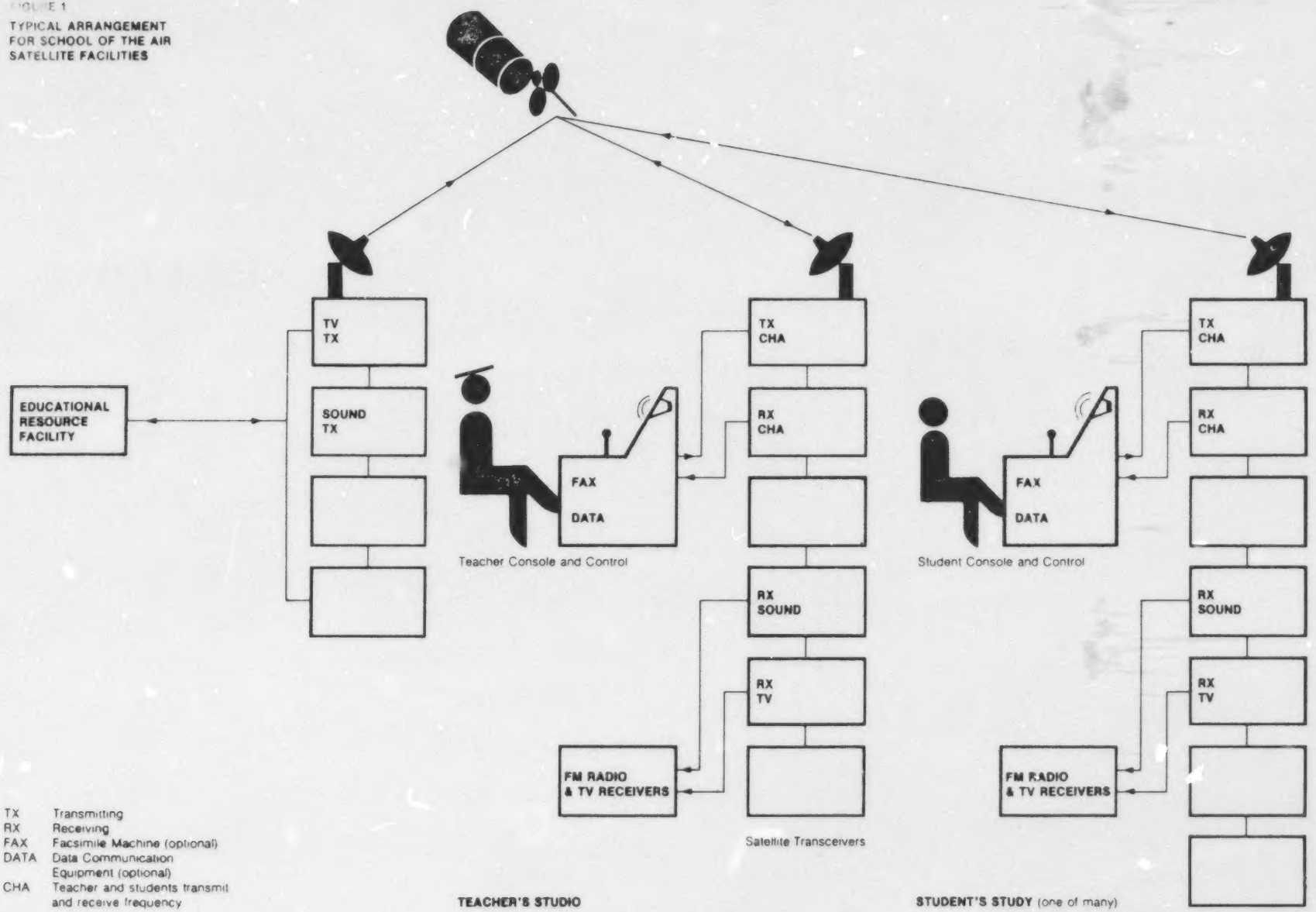
A Basic Educational Satellite System

In the simplest system, each class which would be operating concurrently would be allocated a single Radio Frequency (R.F.) channel through the satellite. All of the earth stations in a class, those used by the teacher and the students, would transmit and receive on the same frequency, as illustrated in Figure 1. In this system every earth station is identical and each station receives the transmissions from the teacher and from the other students on the channel when not transmitting. The teacher by transmitting sub-audio signals on the channel could inhibit student transmissions as required. One problem with this system is that students' signals may from time to time interfere with the teacher's channel. This system is essentially the present H.F. method translated into a satellite application.

An improved system would have two R.F. channels, one on which the teacher transmits and the second which the students share. This system has an operational advantage that the teacher is always able to gain control of the class by virtue of the fact of transmitting on a different frequency to the students, unlike the single channel case mentioned

FIGURE 1

TYPICAL ARRANGEMENT FOR SCHOOL OF THE AIR SATELLITE FACILITIES



TX Transmitting
RX Receiving
FAX Facsimile Machine (optional)
DATA Data Communication Equipment (optional)
CHA Teacher and students transmit and receive frequency

TEACHER'S STUDIO

STUDENT'S STUDY (one of many)

above. In the two channel case where the teacher does not share his channel with the students of his class, a system can be implemented in which the teacher is always able to control various functions of a particular student's earth station.

As well as controlling the student's transmissions, these functions could also be used to enable the automatic transmission of fax, transmission and verification of data to a student's microcomputer, collection of assignments from the microcomputer's storage device and other tasks when the student may not be in attendance.

Use of the satellite has the additional benefit that the system is flexible in permitting the teacher to operate from any chosen point and that point could be changed relatively easily.

Addition of Data Transmission

It is possible to add a low speed data channel (say thirty characters/second) which is transmitted concurrently with the voice signal on a standard earth station at only a small cost penalty. An obvious use for this channel would be for the teacher's remote operation of and communication with the student's work station, including microcomputer.

SATELLITE COST ANALYSIS

The following sections present estimates of the cost of using satellite communications for 'school of the air'. These costs are based on the cost of providing a two-way voice circuit between teacher and student, with all students able to hear each other as described previously in this paper. This system could be adapted to other teaching situations, either with little change or by the addition of terminal devices using the voice link such as computer terminals, facsimile machines and electronic blackboards. The earth station can be equipped to receive broadcast programs, although reception of HACBSS TV and radio channels is probably best done with a standard HACBSS earth station.

Indicative Space Segment Costing

With a dish size of around 2.5 metres in diameter, approximately two-hundred one-way voice channels could be carried by one national beam low power transponder. Assuming two voice channels are required for each class, then in the extreme case, one-hundred independent one-hour classes could be conducted in all parts of Australia through the satellite simultaneously. The total satellite cost could be around $500 for the hour or $5.00 per class or 50 cents per student per lesson, assuming ten students per class.

On the basis of $500 per hour, the total yearly satellite cost can be calculated for any given teaching situation. For example, one hour per day, five days a week, twenty-five weeks a year would amount to $62,500 per annum and, as mentioned above, this could potentially serve one-hundred classes or one thousand students right across Australia. Additional hours of satellite capacity would be available.

Note also that the satellite system will possibly also be delivering educational television and radio on the first HACBSS Service (ABC TV and radio) and possibly on the second as well, depending on government decisions.

The above discussion assumes that a national beam transponder will be used to serve educational needs right across Australia, and therefore implies the simultaneous sharing of the daily time slot and the costs by various educational organisations. Some thought could also be given to the use of low power spot beam transponders (again rented on an hourly basis) to serve regional needs. Capacity in terms of the number of classes which could be served simultaneously would obviously increase significantly. As well, classes could be suspended and television could be transmitted through these transponders to the 2.5 metre dishes.

Earth Segment

1 Remote Earth Station

Information to hand on the cost of small earth stations purchased in small quantities indicates that an earth station located on remote property will probably cost in the order of $15,000 to purchase and $5,000 to install if purchased in reasonable quanitities (say 100). If in fact the $2 million capital cost of one hundred earth stations is difficult to fund as a lump sum, the equipment component of say $1.5 million could be paid for by a leasing arrangement. One possible scheme would require payments of around $400,000 per year for five years at which time the stations would be owned entirely by the purchasing organisations. Of course, the earth stations could operate satisfactorily for ten years at least. Thus the cost in this case would be a capital sum of $500,000 for transport, installation and spares, plus around $400,000 per year in leasing charges.

Maintenance and operating costs could amount to around $500 per annum per earth station. These stations could also usefully be distributed to country (and city) schools and hospitals to provide specialised subjects to small numbers of students.

2 Teacher's Earth Station

The teacher's or 'hub' earth stations would range in size from that of the student earth station, handling one or two classes simultaneously, and costing only marginally more than the student's station, to around 4.5 metres, and equipped to handle at least five classes simultaneously. This latter kind of earth station could cost around $65,000, excluding say $10,000 for installation. Operating costs would probably amount to a further $2,000 per annum.

While the above illustrates the likely range of 'hub' earth station sizes, each station would need to be dimensioned to meet its own particular requirements, such as the number of classes to be held simultaneously, or the need to uplink sound or even television broadcasts. As mentioned earlier, these earth stations could be located as required at either city or country centres and, in fact, the conduct of a particular class could pass from station to station on a daily or hourly basis, depending on resources, skills and subjects.

In general, it is believed that as the technology of these small earth stations matures, their prices in real terms will fall. The other significant factor in determining costs is production quantities. Obviously the larger the number ordered, the lower the cost.

SUMMARY

The National Satellite System allows the concept of teaching isolated students to be thoroughly upgraded. The examples given here show that the satellite is an ideal means of providing high quality voice communications, transferring data to and from student microcomputers and providing for the distribution of audio and video material. The satellite can also provide additional services, carried over the high quality satellite voice circuit, and has a high degree of flexibility in the provision of a range of services over large geographical areas.

The aim of this paper has been to provide some ideas and examples of how satellite technology can be applied to educational needs. It is hoped that further interaction between the people involved in the development of satellite and education technologies will refine the ideas presented here, and bring them to fruition.

Using the Telecom Network in Education

BRENTON PHILLIS*

At the 1982 Australian Society for Educational Technology (ASET) conference in Sydney I gave a paper entitled 'Telecom Australia and the Education Sector'. That paper outlined:

- The need for an exchange of information between Telecom and the education sector.
- Telecom's present facilities and product range available through the switched telephone network: conferencing, facsimile and slow scan TV transmission, interactive data, etc.
- Telecom's commercial approach to the education sector - viz. a response geared to market needs, involving considerations such as market size and requirements, investment, competition, product life-cycle, etc.
- Telecom's establishment of account manager positions for the governmental sector.

Much has happened since that conference only fourteen months ago, both in Telecom and in educational organisations. Today I am discussing 'Using the Telecom Network in Education' and will cover:

1 the considerations of schools of the air in using the Telecom network, including

2 some of the products available and anticipated from Telecom in its teleconferencing range of products and services;

3 finally, an indication of the information Telecom needs to provide products and services to meet your needs in the educational area - the educators and users of schools of the air and other education services.

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As Rory Treweeke pointed out* education is interaction between people - the well-nigh ubiquitous switched telephone network provides an ideal means for such interation. Whereas, the satellite provides unparalleled broadcast facilities in both radio and television, the national network provides by far and away the cheapest form of telecommunications interaction available.

There are several questions which must be answered in considering using the network to interact. By considering these I shall outline some of the equipment and services offered by Telecom. The first question is:

HOW MANY LOCATIONS ARE TO BE LINKED?

If two parties (the usual point-to-point telephone call) are involved a wide range of facilities is available. I do not propose to cover these here, but would refer you to my previous paper or your government account sector manager. If more than two parties are involved the process is called teleconferencing.

Teleconferencing involves the employment of a conference bridge to interconnect a number of different parties in a multi-point fashion. There are two types of conference bridge that can be used:

. exchange-based conference bridges;

. terminal-based conference bridges.

Exchange Conference Bridges

Telecom offers a manually connected exchange-based conference bridge facility. This service is booked through the operator for a particular time of day. The calls are charged on the basis of STD rates between the originator and each conference participant, with per call and operator surcharges.

These services, which are readily available in each state, give the opportunity to trial teleconferencing as a teaching or teaching-support tool. The exchange based service, however, does not give the conference chairman, or teacher, any technical control of the conference with respect to queuing, sub-conferencing, private conversations, etc.

Terminal Conference Bridges

Terminal Conference Bridges which give this kind of technical control are normally installed in conjunction with a PABX as this enables the required number of exchange lines to be readily available. With this bridge, each participant's line extends separately to the Chairman-controlled console.

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* *See* p.58

An example is the Comfertel Conference Bridge from Telspec. With this bridge, the teacher may arrange two simultaneous conferences with up to a total of ten remote parties. The teacher may:

- enter either conference at will;
- talk to any party independently;
- remove and enter participants to either conference;
- remove selected participants from the main conference and form them into a second conference;
- intercept each incoming line to detect a source of noise;
- monitor both conferences by use of listen-only device on teacher's two-line feature phone (an option);
- visually observe who is talking (by viewing a speech operated light).

Use of a special voice-switched adaptive gain amplifier in each conference input assures:

- all participants are heard by any one party at similar volume;
- background noise and chatter are eliminated;
- risk of sing-around eliminated;
- interjection is possible.

Each of the ten conference parts may be connected to a mixture of input lines comprising direct exchange lines or PABX extensions.

The chairman may originate or receive calls through any one of the ten input lines which are equipped with visual and audible ring indicators. This allows parties themselves to request a conference to be set up or to enter an existing conference.

A two second time-out facility allows instant reconnect of a line if release button is inadvertantly operated.

A visual indicator associated with each input line indicates the active speaker at any instant.

Comparison

It would appear that if schools of the air use fixed bases where teachers give all lessons for a particular region, a terminal bridge is preferable. Such a terminal bridge also gives the possibility of interconnecting an integrated system of two-way connections - HF, satellite and terrestrial telephony. This gives obvious advantages both in technological transition and in a final mixed system.

In other circumstances of rural education, where there is no clearly identified base location for a sufficiently wide range of purposes, the exchange-based service may prove more cost-effective and flexible. The trialling of an automatic exchange conference bridge was carried out last year in conjunction with the Victorian Education Department. This allowed the development of protocols, curriculum and teaching methodologies. This kind of arrangement is particularly suited for specialist teachers with classes distributed over a number of schools, or for curriculum discussion between teachers of the same subject.

The second fundamental question to be asked is:

WHAT IS THE NUMBER OF STUDENTS (OR PARTICIPANTS) AT EACH LOCATION?

If there are only one or two students, as is often the case in school of the air locations, Telecom markets several light-weight headsets for hands-free use:

. Featherset and Style-light.

Loudspeaker telephones are also available, either as part of a Telecom premium phone or as a separate unit from other commercial sources.

If a group is located at one end or at several different locations, as is possible with tutorials of children, teachers in remote schools or parent/tutors, a range of products is becoming available. Telecom will launch a range of terminal group devices as part of its Teleconference product range later this year. These devices will offer various facilities with respect to hearing (reception) and speaking (transmission), switching, and so on.

Network Constraints

The most obvious constraints I know many of you will witness immediately are those of 'unreliable phone', 'low quality phone' or even 'no phone'.

Telecom is rectifying this situation. From 1970 Telecom has reduced the number of manual phones from 260,000 to the 1983 figure of 40,000. Most of these remaining 40,000 services, many of which are below standard, are privately maintained and are invariably manual, will be replaced by 1990 by Telecom owned and operated automatic STD services.

The remainder of this Rural Conversion Program and the Remote Area Program, providing services to areas where only the HF networks reach at present, will cost Telecom some $270 million.

Telecom is connecting customers by means of single channel radio systems through its developing microwave radio trunk routes in remote areas. Analogue radio systems are being used to service isolated groups of customers not too distant from the existing network. The Digital Concentrator Radio Systems will connect customers up to 600 kilometres from an exchange from 1984/85 onwards. All these services are of a national standard.

In addition Telecom is committed to use of the forthcoming national satellite for telephony purposes. The major earth station facility is being dimensioned, along with the services and facilities customers will be offered.

All these networks will be able to provide for educational usage. Dimensioning the networks, in terms of the number of customers on a system and the amount of network traffic, can allow for educational use of different kinds. In this respect the research project being conducted by Peter Taylor at the National Centre for Research on Rural Education will be particularly useful - both directly to Telecom and through educators in indicating a future direction for schools of the air. Telecom will then be able to more specifically indicate what it has to offer rural educators.

Teleconferencing

I would like to return briefly to the forthcoming Telecom range of teleconferencing products which can be used for educational purposes. These include:

- audio conferencing through bridges (which I have outlined);
- group audio conferencing through a range of terminal products;
- studio conferencing service, and
- video conferencing, both available as interstate services; and
- teleconferencing consultancy service which will help educators to dimension their networks to maximise usage of Telecom's products, networks and tariff concessions.

Market Information

For Telecom to specifically consider the use of this range in educational settings and to adapt appropriately, it needs to gather information about educational use of telecommunications:

a. the content of curriculum to be used;

b. parts of curricula which can be handled by teleconferencing - either in products, audio services, enhanced services or desired enhancements;

c. what applications are foreseen in terminal products - that is group/classroom activities and multi-point individual pupils - network bridging products;

d. advantages/disadvantages of teleconferencing versus schools of the air HF networks;

e. what are the desired product attributes - for example:

   - user imports - perception of impositions and restrictions placed on users by equipment.

- cost - of equipment, of using equipment and in providing the necessary environment.

- quality - fault incidence and perceptions on the acceptability of audio quality.

- flexibility - ease of use for various locations and environments.

- fashion ability - perceptions on design and aesthetics of equipment and associated user imports.

Last, but by no means least, Telecom is interested to know what amounts of money are likely to be made available to educators, to take full advantage of modern telecommunications technology in the delivery of rural education.

Appropriate Technology for Distance Education

TONY DEAN*

This paper will attempt to give a brief overview of the technological resources available for distance education, to separate those which are feasible for present and immediate application from those which are more distant in the future, and finally to examine some of the issues associated with one particular medium, namely television, in some detail.

The range of media and technological systems available at present is greater than ever before. We read of teleconferencing, microcomputers, facsimile transceivers, videocassettes, satellites, data transmission and videotex all being variously applied to distance education in different parts of the world. Faced with such a range of options, the selection of appropriate technology for local needs may start to look difficult and confusing. There is, nevertheless, a growing recognition among educators that the new technology simply consists of tools which should be available to trial and to evaluate, in the same way that we may trial and evaluate a new maths textbook or a new reading scheme. These tools, it is claimed, should not be locked up in the ivory towers of the technologists and technocrats, but should be explored for their educational potential by educators and technologists working together. This need has been recognised by the Australian Education Council, which is now providing grants, through its Advisory Committee on New Communications Technology, to educators wishing to conduct trials in the educational uses of new technology. There are already a number of projects under way throughout Australia as a result of this initiative, and the program of trials does appear to have stimulated a healthy climate of interest and innovation.

The technology options available for distance education fall into two broad categories - interactive media, and resource media. Interactive systems include those which allow for 'live' contact between various combinations of teachers and students, by aural/visual means. Resource media include all those stand-alone, pre-recorded materials designed for use by students at their own convenience.

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* Tony Dean, Senior Education Officer, Audio-Visual Education Branch, Education Department of Western Australia

INTERACTIVE MEDIA

1. Two-way Voice Communication

This is generally listed among the greatest needs of distance education teachers, yet in the past it has been used in a regular and systematic way only by the schools of the air, using HF radio. When the satellite is operational, and when Telecom extends the terrestrial telephone network using digital radio concentrators, a number of options will open up for distance education, and these developments are described in two other papers presented at this workshop.* However there is already available a number of alternatives to HF radio which can be used, experimentally at least, by distance education teachers. One is the ATS-1 communications satellite, an old NASA communications satellite above the Pacific Ocean, which is available for educational and other applications. A consortium of educational users in Australia and the Pacific is now using it on a regular basis to gain experience in two-way voice communication by satellite. Its advantage is the low-cost technology required to access it (an earth station costs as little as $1,200 to establish), although its use is controlled by the licencing provisons of the Broadcasting Act and by membership of the consortium.

The other available technology is the existing telephone network. Telephones are used by some distance education teachers for one-to-one counselling with their students, but the teleconferencing facilities of the network, together with the use of loudspeaker telephones, offer a number of other possibilities for linking together individuals or small groups of teachers or students at various locations. These could include both primary and secondary correspondence students (not already served by the schools of the air), students engaged in correspondence courses at small rural schools, and teachers unable to attend in-service courses.

2. Telephone Peripherals

In addition to the two-way voice options offered by the telephone network, a number of telephone 'attachments' are available to extend this form of communication into the visual media. One of the most commonly used in business is the facsimile transceiver, which receives and transmits down a telephone line pages of information, either printed, or handwritten, or drawn, or photographic. These devices have great potential, particularly for small rural schools where supplementary courses are offered by correspondence. Another system still in the developmental stage is that known as telewriting, or audiographics, whereby colour graphics can be transmitted down a telephone line and reproduced on a domestic television receiver. Students can interact with these images by using a 'light pen' to draw on their screen and thus share information with their teacher and other students. This system, known as Cyclops, is being used experimentally by the Open University in the United Kingdom, and within the next few years should be available as an optional feature of many domestic microcomputers.

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* *See* Don Kennedy, pp.92-100 and Brenton Phillis, pp.101-106.

3. Videotexts

The ability of phone lines to link television sets with large information sources is the basis of various systems known generally as videotex. Although no public videotex service is available yet in Australia, several private systems have been installed by businesses such as travel agents. In Britain, videotex is being used to provide information to the public about courses available from various educational institutions, including distance education courses. The system has numerous advantages for such administrative purposes, but other than as an up-to-date information source, its educational potential is still uncertain, and overlaps with the whole area of microcomputer technology.

4. Microcomputers

We are being told increasingly by the mass media that society is experiencing an information technology revolution, as a result of the very rapid advances in computer technology over the last few years. It appears inevitable that, sooner or later, computers will be ready to challenge the whole system of print-based distance education. But that time has not yet come. First of all, the whole microcomputer market is very volatile, and changes are occurring so rapidly that it is difficult to make a commitment to any one system which may be obsolete in six months time. Secondly, the technology is not yet sufficiently 'user friendly'. To be able to write even relatively simple computer programs requires a well-developed expertise in one of the various languages of computer programming. Microcomputers will not be viable until most distance education teachers are computer-literate, or until the software is available to enable teachers to write their own computer programs in plain English.

In the meantime, however, experimentation should be encouraged using existing microcomputer technology, providing that staff are available to write specialised programs to support distance education courses, rather than relying upon existing computer software. The word-processing facilities of microcomputers could also be useful to distance education curriculum writers, to facilitate the revision of printed course materials.

5. Radio and Television Broadcasting

Although these are generally regarded as one-way communications media, they are mentioned here because of the possibilities provided by the telephone as a means of limited interaction by the audience. One example is the phenomenon which has become popular in commercial radio broadcasting known as 'talkback radio', where listeners can phone the studio and discuss matters 'on air' with the presenter. The same system of audience interaction by telephone would also be possible with live television. In Canada, both radio and television broadcasting are being used for distance education, with telephone talkback providing a means of student participation in the program. In some cases, radio tutorials are held using the sub-carrier channel of a stereo FM signal to broadcast to the students. These broadcasts require special decoders to receive them, but have the advantage that the tutorials are not heard by everyone over the public airwaves. It also means that the tutorials are held at a time convenient to the participants, which may not be possible if using a shared public radio channel.

The potential for this type of interactive broadcasting in Austrlaia is still unclear, but the technology is readily available, and has numerous possibilities for local experimentation.

Several of the above media are the subject of educational experiments in South Australia, and a useful summary of their potential can be found in a paper entitled 'Distance Education and Communication Trials - Status Report, October 1982', published by the Educational Technology Centre, Education Department of South Australia.

RESOURCE MEDIA

1. ABC Schools Radio Broadcasts

The output of ABC educational radio represents an enormously valuable resource, particularly for primary students, and although these programs are designed for classroom use, most are readily applicable to distance education. With so much emphasis on the visual media, particularly video, recently, it is easy to overlook the advantages of radio, but there are many areas of the curriculum where radio is a more appropriate technology than video, such as language development, literature appreciation, music and, obviously, the development of listening skills. The technology to record and store these broadcasts for later use is readily available in most distance education centres.

2. Distance Education Audio Tapes

Local production of audio tapes provides for those areas not served by ABC radio. It can be of two types:

(a) professional standard productions to support a specific area of the distance education curriculum, and designed as a lasting resource. These are generally produced by the audio-visual sections of the respective state education departments.

(b) in-house productions by distance education teachers, generally for short-term use and for distribution to a small group of students, or even an individual.

3. Still Pictures

These include sets of photographic prints, slide sets, and filmstrips. These low-cost resources can be readily produced by media centres or by distance education teachers themselves, and are readily applicable to certain areas of the curriculum, as a more appropriate option sometimes than videocassettes or other high cost or more sophisticated media.

4. Sound Filmstrips

This is a combination of 2(a) and 3, and because of their low cost and ease of production became a very popular A-V resource in the early and middle 1970's for distance education use. More recently, their popularity amongst students has declined, probably as a result of the novelty and glamour of videocassettes; and of student reluctance to grapple with

the complexities of loading a filmstrip projector. This problem has been partially overcome by offering certain sound filmstrips on the video-cassette format. This has also proven to be a simpler and more cost-efficient way of duplicating and distributing such materials to distance education students.

Whether sound filmstrips are offered in a video or audio/film format, they will continue to have an important place in distance education, as they are distinctly different from films and TV programs. One of the reasons for their decline in popularity may have been that some earlier sound filmstrips were simply illustrated radio programs, in which all the relevant information was on the audio tape. Sound filmstrips work best when they require the student to 'read' the visuals in an enquiring manner, to 'pause' the tape and examine the picture in detail. This is not generally possible with the moving images of films and television programs.

5. 16mm Films

Most state education departments have comprehensive educational film libraries, comprising several thousand titles on 16 mm film. In the past these resources have been unavailable to distance education students, except in the rare case of a family with its own 16mm projector. The introduction of half inch video-cassette recorders, however, has changed this situation. Many film libraries have now signed contracts with film distributors to enable them to duplicate a limited number of copies of certain film titles on videocassette, and these titles can now be loaned to distance education students to support specific courses of study. Major producers and distributors such as the BBC, Encyclopaedia Britannica and National Geographic all have duplication agreements available for their films, and distance education teachers need to be aware of these materials in designing their courses.

6. ABC Schools Television Broadcasts

These resources were previously unavailable to most distance education students, but primary students now have access to them on videocassette as a result of the Loan Video Program. As with ABC radio broadcasts, most of them are designed for classroom use, but many lend themselves readily to distance education.

These resources will be discussed further under the heading 'Educational Television'.

7. Distance Education Television

The ABC television output and the educational films on videocassette can be supplemented by programs specially produced for distance education use. These can be of two types:

(a) an in-house production by a distance education teacher using portable low-cost video equipment. These can be readily produced to meet the needs of an individual student or small group of students, providing that the concepts and scope of the production are kept simple. They are generally of short-term value.

(b) professionally produced television programs to support the distance education curriculum. Most state education departments have media services sections with broadcast standard television production facilities. The application of these facilities to distance education will be discussed later.

Resource Hardware and Software

The above list of resource options resembles closely the range of media which would be used in a conventional school. Such schools generally encourage a multi-media approach to using resources, and are thus equipped with radios, cassette recorders, slide projectors, sound filmstrip projectors, 16mm projectors, videocassette recorders and television receivers. It may well be impractical for such a range of equipment to be made available to distance education students, however, and a case could be made for combining a number of functions into a small number of items of equipment. The audio-cassette recorder and the half inch videocassette recorder represent the most useful standard items of A-V equipment at present and in the immediate future. The half inch VHS video format, which all states in the Loan Video Program have adopted, appears to be well entrenched in the consumer market place, and despite the development of newer systems, there is such a large investment in VHS hardware and software that this format is unlikely to become obsolete in the foreseeable future. Distance education administrators, therefore, should not feel reticent about investing in video equipment and materials at the present time. As indicated earlier, it is now feasible to transfer a number of different media (see items 3 to 7 above) onto half inch videocassette, thus allowing it to be used as a universal multi-purpose format within a distance education system. In future, it may be feasible to store whole libraries of still pictures on video (over 300,000 pictures can be recorded on one tape), as the new generation of VHS recorders have sophisticated still frame display and search facilities. As far as films and television programs are concerned, half inch VHS cassettes appear to be the best method of recording and distribution, and even if the satellite provides for direct broadcasting of such material to students' homes, video recorders will still be used to record and replay such broadcasts.

Educational Television

The introduction of video into distance education has opened up a new range of possibilities which are now only just beginning to be explored. The remainder of this paper will examine some of the issues concerned with the use of television in distance education.

When the ABC first began broadcasting educational programs in the 1960's, television was seen as an ideal means of providing high-quality teaching to a large number of students. Top rate teachers were employed to prepare direct instructional programs on television, as it was believed that an excellent teacher on television could achieve better results than an average teacher in the classroom. Subsequent research, however, indicated that this was not happening, and that students preferred to be taught by a 'live' teacher in the classroom with whom they could interact. As a result, a different role evolved for ABC broadcasts; they became less instructional, and more oriented towards enrichment of the instruction

provided by the classroom teacher. Today, this is still the case, and programs are produced as 'resources', which should be used by the classroom teacher in a way appropriate to the needs of her or his class.

Although these programs are officially described as 'enrichment' or 'learning resources', they are seen by some people, both inside and outside the ABC, as simply entertainment programs. This is not to suggest that entertainment programs cannot be educational in a broad sense. Debate continues, however, over the extent to which ABC schools television should be educational in the broadest possible sense, or in the specific sense of having a formal teaching role.

The Loan Video Program, introduced in 1982, has now made these programs available to primary distance education students on a regular basis, and their value as learning resources is the subject of research projects in the various states. Because these programs were produced as enrichment resources for use by teachers in conventional classrooms, the question is frequently asked as to how valuable they are in the context of distance education. The answer to this question would appear to depend upon two factors:

(a) the nature of each program itself, and

(b) the social and educational setting in which each program is viewed.

The majority experience of families participating in the Loan Video Program indicates that the programs are viewed in the evenings, usually by the whole family. This practice has both a positive and negative aspect. On the positive side, family viewing represents a *shared experience*, which has greater educational potential than an experience restricted to the individual student. On the other hand, however, the family setting may tend to emphasize the entertainment aspect of the programs being viewed. The shared experience of viewing may result in reinforcement through discussion, but such discussion may not necessarily relate to the educational objectives of the program being discussed.

For this reason, considerable emphasis is now being placed by teachers and program producers on the preparation of supplementary materials to accompany the programs. These materials may consist of background information, and suggestions for both introductory and follow-up activities. Because these programs are not designed to 'teach' in their own right, their value as learning resources relies largely on the way in which they are used, whether in the classroom by a teacher, or in the isolated home by a home tutor. The supplementary materials are thus important in placing the television program into an *appropriate learning context*.

Whereas ABC programs are designed to meet the needs of classroom teachers in 'conventional' schools, no such constraints are placed upon the design of programs produced specifically for distance education use. Several state education departments are now using their own television production facilities to produce distance education programs, but because this is such a new field (since distance education television has only been feasible since the introduction of low-cost domestic VCR's) no discernible style of production has emerged, nor has adequate research been completed into the effectiveness of television as a learning source for the isolated student.

In Western Australia, our experience has been that distance education teachers anxious to use television to support their courses have asked for programs of a more direct instructional nature than those ABC programs already being supplied to primary students in the Loan Video Program. Television has thus been seen as providing, vicariously at least, a missing element in distance education, that is, face-to-face contact with a teacher. Already a variety of programs has been produced, using either professional television presenters or actual distance education teachers as on-camera 'talent', ranging from junior primary Art and Music through to upper secondary Maths and Science.

In addition to these simple, instructional programs, we are making other programs using a range of different presentation styles. Already, seven discernibly different styles of presentation have been trialled, including:

- single presenter in studio;
- single presenter on location;
- single presenter in studio with slides, graphics and location sequences;
- two presenters in studio;
- single presenter, with group of students;
- documentary on location, with voice-over narration; and
- dramatization, using actors, sets, etc.

These programs, which are still experimental in nature, are nevertheless based upon the assumption that no single presentation style best suits the needs of distance education, and that the choice of style should depend upon the nature of the topic being presented, and upon the needs and expectations of the specific target audience for whom the program is being made.

The other assumption underlying these programs has been that they need to be produced to the same technical and production standards as 'mainstream' educational television. In other words, we believe that the same amount of preparation, money and creativity needs to go into distance education television programs as goes into programs for any other special interest group. Whilst this would appear on the surface a perfectly logical and reasonable proposition, it has significant implications for distance education teachers, administrators and program producers. High quality television production is very demanding, in terms of preparation time, both in scripting and technical preparation, it depends upon a large number of people with specialized talents, and it requires the availability of sophisticated technical resources. Such programs are only possible, in other words, if the education system is prepared to commit its staff and production services to the preparation of such programs, and to forgo the programs for other specialized educational areas which could have otherwise been made. Putting an actual cost on television program production is a complex exercise.

because of the different methods of itemization and the fact that there are many hidden costs which are difficult to quantify. Nevertheless, one figure which has been suggested is $5,000 for an average twenty minute studio-based program.

This compares with an average price of $500 for the video duplication rights (up to twenty-five copies) for an existing 16mm film. In other words, it costs approximately ten times as much to make a program aimed at specific local needs and using local examples, as it does to buy a ready-made program of a more generalized nature.

- Can this level of expenditure be justified on distance education learning materials?

- What is the most effective style of presentation for distance education television?

- Is it appropriate to produce these programs to broadcast standards, or would a cruder, 'warts-and-all' style of production be acceptable to distance education students?

- What are the best ways of fostering the use of these programs in an appropriate learning context?

- Can television encourage students to be active participants, rather than just passive recipients, in the teaching/learning process?

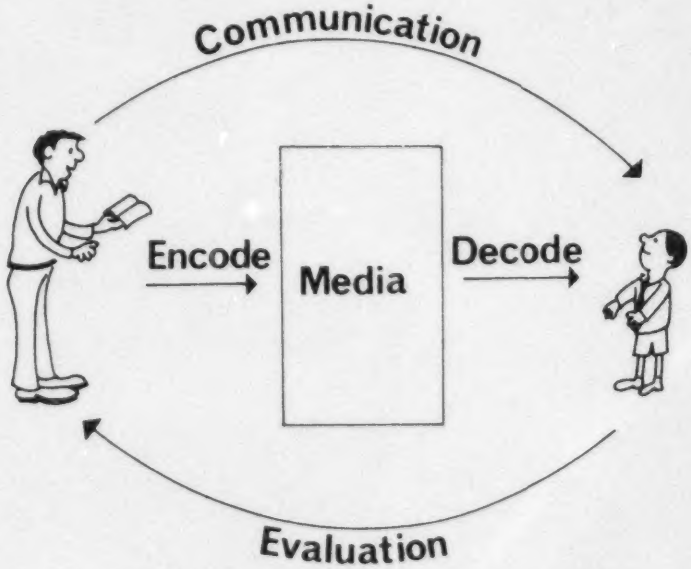
In Western Australia, these are some of the questions being addressed by an on-going study of distance education television, involving the Education Department's Distance Education Centre, Research Branch and Audio-Visual Education Branch. They are questions which deserve the consideration of all those who recognize the potential of television to provide a valuable new dimension to distance education in Australia.

Distance Education

COLIN W. DUNNETT*

Once education can be provided from sources outside a school boundary then the normal terms of reference for evaluation, as well as cost effectiveness, are considerably changed. In the very earliest examples of 'distance education', correspondence schools and schools of the air began to have those principles of evaluation applied to them. The solution to a problem from the Correspondence School provided in a situation, where there is nothing else available, surely has quite a different cost advantage than the same course provided and managed in a situation where it is required merely as a bonus, enrichment or as a simple alternative to what had already been offered. Perhaps it is wise to analyse the activity rather than first try to cost it!

The simple model of communication shown by transmitter and receiver would simply be decoding and encoding in terms of using one of the 'media' as shown in Figure 1.

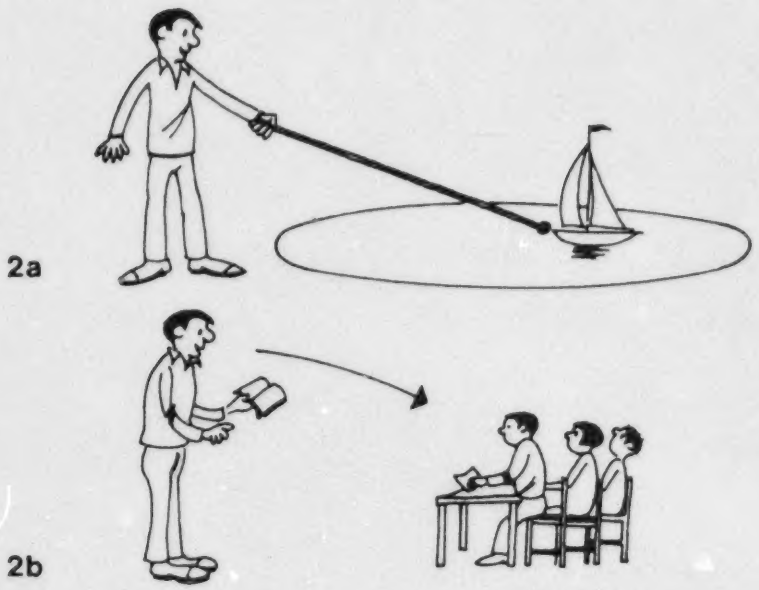


1

Figure 1: The Simple Communication Model

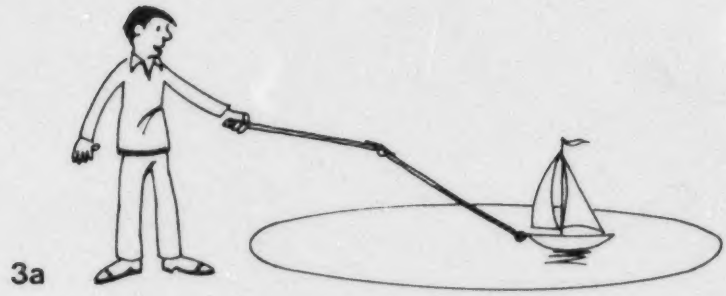
* Colin W. Dunnett, Principal, Educational Technology Centre, Education Department, South Australia.

This process can be likened to the movement of an object using a tool and manipulating that tool according to the reaction, strength and mobility of the object. Any inwards reaction can be easily corrected.

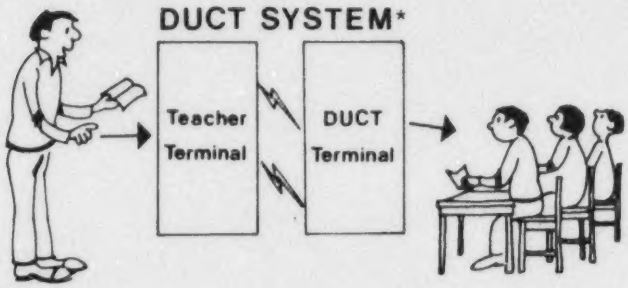


Figures 2a & 2b: The Lever Analogy to 'Face-to-Face' Instruction

As soon as we go into the distance education mode which could be called 'non face-to-face' education, the transmitter is separated from the receiver by a separate system. The separate system itself may carry many modes and many tools but the principle of encoding and decoding occurs itself at a distance and therefore an additional, albeit related, tool is introduced. This can be likened to using two levers, one hinged to the other in trying to move the same object as described above.



3a



3b

Figures 3a & 3b: The 'Hinged' Lever of Distance - Non 'Face-to-Face' Instruction

It is clear that the hinged lever can work, particularly if it is locked in a specific position. If it is locked in a straight line, it will revert to becoming a single lever. If it is locked in any other angle, it may still have freedom in another plane as well. As long as that freedom is fully understood, then the force or energy applied to it can make a suitable tool which, with adjustment, can react to cause any movement desired.

I believe those two models illustrate the traditional process of direct face-to-face, and distance education, and also reveal the comparison between them. The technological problems of encoding and decoding media and all the communications, understandings, misunderstandings, technologies and devices are already beginning to be appreciated by educational technologists. However, we are beginning to realise the problem of the even more complex processes such as are involved in 'non face-to-face' education. Here not only the technology has to be completely understood, but the total communication model superimposed upon it provides further complexities for analysis. The direct mode of teaching becomes an indirect activity whilst still remaining interactive.

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* The DUCT Small Group Terminal has been designed to act as an interface between a wide range of telecommunications equipment and the telephone system. The terminal enables voices of a number of people to be received by strategically placed microphones and to be transmitted along a telephone line. Sounds received along the telephone line are amplified through a loud-speaker for the group to hear. These terminals are being used to provide instruction in specialist teaching areas (for example Languages, Music) and for inservice conferences.

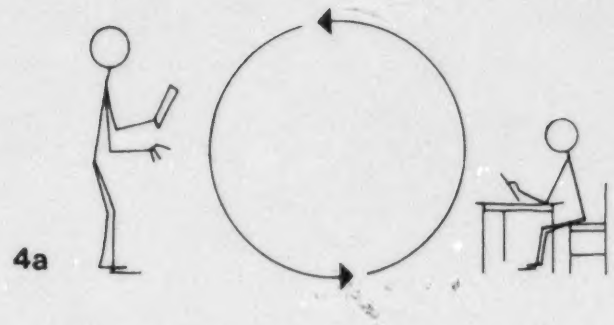

Figure 4a: Direct Interactive Teaching

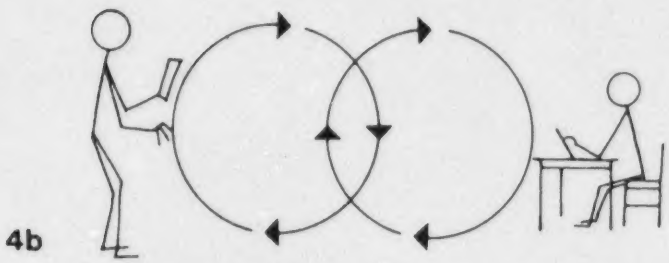

Figure 4b: Indirect Interactive Teaching

Those complexities themselves introduce many unknowns. For instance, a specific medium of communication, say, an interactive telephone network used to teach a foreign language by a specific sequence or methods, may well fail or even be successful due to quite a wrong assumption that the student may not have perfect hearing. The technology being incorrect to balance a specific intention may well be correct in relation to a specific method, and conversely, a correctly chosen technology with an incorrect methodology could prove a failure.

If there were ten different tools, each capable of moving ten different kinds of material, there could well be a total of one hundred methodologies needing to be analysed. At this stage, we are concentrating on the effect of the tools and the following possible methodologies. It will be many years before we can ascertain, with confidence, the best method and the best medium to use in any particular circumstance of distance education.

I believe all of these approaches must be governed by a simple understanding. 'If an educational process is providing any effect at all, then it must be considered to be a considerable cost benefit compared to having no effect at all'. This of course assumes that the educational effect is the effect desired!

Education in this context is rather like advertising and there are those that can say very sincerely that there is no such thing as bad advertising!

I am sure, however, there will always be those who will criticise any specific content of education. Unless the objectives are defined quite clearly by the curriculum developers, then any form of education, not just distance education, can fall into areas of achievement which were not intended.

I think it is becoming increasingly clear that the methods involved in producing distance education will never be all of one kind, any more than schools will ever be administered in the same way. Distance education processes will be an amalgam of many methods, using many media, in many ways. If a medium is accepted it will be successful. Conversely, if the audience dislike the use of, say, video tape, the effect will be negative. Equally, there is another paradox whereby for example if a class only understands a specific language which is not possessed by the teacher, then that class will surely be at a severe disadvantage!

Other problems which begin to appear when becoming involved with distance education are the very management processes and interaction of the personnel involved in the teaching.

These problems are all related to the fact that the total organisation within a school is able to be infinitely expanded in terms of capability when using a process of distance education. The needs of the school which can be completely expressed by the principal, the teacher and the students, could by these methods become feasible. The only constraint that will occur with the technology now available or even with the enabling of a face-to-face teaching situation is that of dollars and cents: the funding problem becomes complex. It is very difficult for a principal within his school boundary to relate the value of his needs to those of another school with a completely different problem which may well cost the same amount of money. The staffing solutions of schools, particularly those with declining enrolments involve the sharing of a teacher between different schools. This situation confuses the area of the teacher's responsibilities within the class with the supply and organisational problems of the teacher himself.

I believe many debates and discussions in industrial terms, as well as in terms of bureaucratic needs, will eventuate as a result of the staffing problems which emerge from distance education activities.

The existing interested parties in distance education may well need a new coordinating authority before any real consensus is achieved. Similar problems will occur in the location of the sources of distance education. It will certainly not be necessary to locate further transmitting stations at places close to the transmitter, such as was chosen by the original schools of the air where they were related to Royal Flying Doctor Services' transmitters. The sites for those bases would probably be considerably different than they would have been had they been chosen for education purposes only.

The frequency with which the average students can visit such schools of the air is probably of less financial importance than the efficiency with which its service as a school could be supplied to their homes. This cost must include the need, which will always remain, for a teacher to visit the student.

I would consider particularly that there are more likely to be hub schools for children who are involved in distance education. All schools that are larger than what we may call an 'economical size' may well provide a 'pastoral' home for students less fortunate and on homesteads many kilometres away. Such hub schools may well be less costly than establishing new large 'centres'.

Other problems begin to appear in relation to the widsom of sending secondary school children to a school for boarding on term or weekly bases. Now that the technological problem of delivery on a daily basis can be solved, it may well be that occasional visits to a school may be more suitable than boarding. The relative value of remaining within the family at the possible expense of the loss of some aspects of social education offered by a boarding school has to be fully evlauated when the academic values are equal. All current evaluations of this kind have only been undertaken in the context of a rather inefficient form of distance education available in the home when the children did not attend a school. Indeed, there are those who are making a prognosis whereby all children can study in the home and the teacher does the touring!

I postulate these last thoughts in terms of additional social decisions that are necessarily introduced by the application of new technology. We may solve some existing material and locations problems but their very solution upsets the balance of society which has grown to accept a different and more traditional solution such as the boarding school.

One must also not under-estimate the continuing need for education, particularly with the objective requirements of the market place and industry. Tertiary and further education, as well as higher education generally, can equally well be delivered at a distance. One would consider it to be so already, even though the distance is that from the lecturer's lectern to the back bench of an auditorium. The interactivity which might be encouraged in a distance technology certainly very seldom takes place in a college lecture theatre compared to the classroom generally.

Again the folly of changing only one part of a system, or dismissing what is obviously a bonus, cannot be stressed too strongly. Any form of distance education, albeit in the form of a tutorial allied to personal presence and face-to-face teaching, must be considered in the context of a total balance of educational delivery systems.

In large education systems, there is the role of a consultant, particularly a touring consultant, whose task it is to both innovate new programs and assist with existing problems. The effectiveness of such touring and any similar peripatetic activity could surely be improved by the use of the distance education mode. Unfortunately, those people who have the ability to improve the education system react against the new methods of delivery of their skills, as they consider their autonomy to be threatened and their freedom to become restricted.

This latter point, if one is to be successful in selling distance methods, must be explained and introduced as a move towards more efficient use of the consultants' time whereby they can manage and advise more people in the same time with the same money rather than trying to do the same amount for less cost to the total systems.

In summary, the communication of information (and surely that describes teaching) in an interactive delivery system will be the basis of the future of our society. A recent survey in the United States suggests that there will be more communications technology introduced into the world in the next five years than totally exists at the moment.

A lot of communications devices and technological needs will be for other purposes, but if they exist, an educational system must use them as well so as to markedly improve the cost effectiveness for all purposes.

Education and educators are not renowned for the swift acceptance of new innovations and technologies. This very conservatism can be looked upon as an essential component of education. However, if that conservatism in any way results in the widening of the gulf between current needs and current capability, then that gulf must be restored to its former conservative limits. This conservatism *per se* is causing an aggravation and an increasing gap in a hypothesis which demands stability.

May I terminate this paper with one thought that seems to be frequently overlooked. When we compare the cost of travel and movement versus the cost of instant communications, even though we consider the loss of the face-to-face capability and personal touch, we so often forget about what is happening to the person on the way to the delivery point of a personalised face-to-face activity. Perhaps an often quoted maxim of the travel agency is nearer the truth, 'Half the fun is getting there'!

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Workshop Report

Day Two: Thursday, July 14, 1983

Theme: Delivering Curriculum Materials

ISSUES CONSIDERED

Support services for the home tutor

It was agreed that special training and inservicing should be provided for home tutors. The general opinion was that induction courses for beginning home tutors should be held before the commencement of each school year. Other suggestions concerning special training and inservicing included:

. revision courses for experienced home tutors;

. courses to explain new curricula/learning materials;

. regular on-air SOTA meetings;

. short-term correspondence courses for home tutors;

. seminars with distance education teachers;

. production of video tapes that give hints to home tutors; and

. annual seminars funded by departments of education.

The workshop groups recognized the need for coordination between educators and home tutors during the preparation of curriculum and resource materials. The following were regarded as being of vital importance:

. formal channels to express opinion;

. questionnaires to accompany curriculum materials to ensure immediate feedback; and

. involvement of home tutors in trialling courses.

It was considered that consultation between curriculum writers, teachers/markers and home tutors in the production of curriculum materials would go some way towards giving the home tutor more recognition. At the same time it would provide an avenue of continuing social and professional interaction to make each aware of the other's needs and circumstances.

The role of the itinerant teacher

There was general agreement about the qualities and abilities that an itinerant teacher should possess. He or she must be able to:

- motivate, stimulate and support children;
- assess standards and levels of achievement;
- assist in remediation;
- identify problems in the home affecting the educational program;
- provide counselling;
- coordinate educational services;
- develop and demonstrate teaching techniques;
- check motor skills (as opposed to cognitive skills);
- initiate leisure activities;
- introduce physical education;
- provide enrichment and extension materials;
- provide advice and reassurance to the home tutor; and
- provide feedback to school-of-the-air and correspondence teachers.

It follows that an itinerant teacher must be an experienced teacher with training or experience in remedial education. In addition to their professional competences, they must be able to get on with people.

A distinction was made between a marking teacher who 'patrols' and one who is purely an itinerant teacher. It was suggested that the latter should be *the* teacher: the one who prepares, supervises and marks work, and who provides educational pastoral care for her/his 'class'. Such teachers should visit their students at least twice a year and, when necessary, spend more time with those children who have learning problems. The length of these visits should be flexible so that a positive relationship may be established with both the home tutor and student(s).

Preservice and inservice training for distance education teachers

A fundamental problem was seen to be the failure of tertiary institutions to offer courses in distance education as a specialist area. This restricts promotional opportunities and multiplies the problems of retaining teachers in distance education and small rural schools that may use distance education curriculum materials. It was considered that teacher education institutions should offer optional courses for persons wishing to specialize in distance education and that country practice should be provided for trainee teachers.

It was suggested that distance education centres should arrange general preservice induction for all distance education teachers and ancilliary staff. In addition, specialist courses, such as on-site school-of-the-air training in radio, should be mandatory.

Inservice training was considered desirable at both the local and regional levels. This would provide opportunities to evaluate problems and to keep up to date with new strategies and curriculum developments, maintain an awareness of developments in communications technology, and to exchange experiences. It was suggested that it would be an advantage if teacher inservice courses preceded or followed inservice activities or seminars for home tutors.

Alternative methods for the delivery of distance education

When invited to rank existing and projected systems for the delivery of distance education materials, the several workshop groups unanimously accorded highest priority to the written word. They agreed that, in the foreseeable future, print will continue to be the principal medium and postal services will be the mode of delivery. It follows, therefore, that in the allocation of resources, particular importance should continue to be given to the improvement of written curriculum materials.

Consensus was not as obvious for priorities among other modes of delivery which might make use of information processing and communications technologies transmitted through terrestrial telecommunications networks and, after 1985, the satellite communications system. General preference was indicated, in order of priority, for:

- two-way audio communication (especially the improvement of school-of-the-air radio services and the more widespread use of teleconferencing);
- two-way audio together with one-way video broadcasts (HF radio or telephone conferencing carried out in conjunction with simultaneous television broadcasting);
- video recordings (VCR) (with strong support expressed for the consolidation of the Commonwealth government's Loan Video Program); and
- audio-cassette recordings.

The potential was recognized of electronic systems for information processing and data transmission (examples quoted included the Cyclops system, facsimile transmission through the telecommunications network, and microcomputers). However, it was recommended that emphasis should be given to the improvement of existing services and facilities rather than the adoption of technologies whose usefulness for education has still to be demonstrated.

Parents, in particular, spoke of their appreciation of the Loan Video Program. They saw this as having introduced two benefits for families in remote areas. The first was the enriched educational experiences it offered for children, and the second, perhaps unexpectedly, was the extended sharing of the educational experience among the whole family. Schools of the Air were seen as providing similar benefits. In addition

to their direct educational value and the opportunities for socialization through on-air interaction with other children, they make possible direct parent involvement in their children's education.

It was acknowledged that the telephone is a useful tool for distance education. There was support for increased use being made of teleconferencing, and for telephonic communication between teachers and parents to resolve learning problems of particular children or in particular lessons, or, as one parent pointed out, to share joy in a child's achievement.

In spite of the obvious benefits that new communications technology might offer, more basic priorities were identified. They included the provision of:

. cheap and reliable power;

. telephone services and/or the improvement of existing services; and

. regular mail and freight services.

There was popular support for the proposition that the most effective, efficient and practical media, deployed in various combinations, for delivering distance education should be used, but, above all, the teaching should never be dehumanized.

The integration of delivery systems

Because of the extensive costs involved in introducing and using new communications technology, the workshop groups were invited to nominate ways in which alternative modes of delivery might be integrated to provide the best educational mix. Some groups admitted that this task was difficult because they had insufficient information about the most effective uses of the new technology. This is an area in which research, development, and experimentation should be undertaken.

There was general agreement that whenever new systems are introduced they should be integrated with, rather than 'added on' to, the existing systems. Concern was expressed about dangers of overload if curricula are continually supplemented by innovations through audio-visual media.

The most favoured mix was correspondence lessons supplemented by video (taped rather than broadcast) and backed up by interactive audio. The traditional print materials should be integrated with audio and video materials transmitted via the most appropriate medium (either terrestrial microwave telecommunications or the satellite communications system).

A case in point, cited by several groups, was the ABC broadcasts for schools. They are usually broadly-based programs which have general interest, but do not always directly relate to specific parts of the distance education curriculum or particular correspondence lessons. If broadcast television is to be used, it should be directed to discrete programs related to specific parts of the curriculum which lend themselves to that medium.

Particular suggestions made by individual groups were:

- that flexibility should be possible so that direct broadcasts might be recorded on home videos and used at times most convenient for particular students and their families. (In some instances, cost-savings might accrue if programs broadcast in downtime, that is the cheapest time, are recorded for use during daytime lessons.);

- that subjects which are difficult to teach through print media (for example languages, science, music) should be supplemented with video-cassette recordings (even audio-cassette recordings to supplement written lesson papers are sometimes inadequate);

- that video libraries be established to allow selection of programs for use at different times during a year; and

- that optional subjects which are not otherwise generally available be catered for in a video library so that individual students (or families) can pursue extra-curricular interests.

The use of broadcasts and/or video recordings

The principal focus of discussions about television broadcasts and video recordings was flexibility for their use in home learning situations. Each offers particular educational benefits, and it was suggested that they should be regarded as serving complementary functions.

Video recordings were seen as having two distinct advantages: they can be used at times convenient to home tutors and students, and they can be repeated for revision and consolidation. Instant playback is possible to emphasize or clarify matters directly relevant to current lessons. The user has control of the medium. Broadcast television does not offer the same flexibility because of external control of programming. Its particular advantage is the opportunity to present standard lessons of high quality to all users, in schools as well as in isolated homes. Such programs broadcast through a central network can be recorded by users for replay at more convenient times. (It should be noted that, at present, broadcast television is not available to the whole population. It is expected that the Homestead and Community Broadcast Satellite Service (HACBSS) of AUSSAT will extend its access to isolated homes and communities.)

Reference was made to an approach implemented in New South Wales. It was reported that in that state, four types of video programs are being developed:

(i) basic enrichment materials for the primary years K-6;

(ii) secondary special interest materials made available on request;

(iii) curriculum-based materials; and

(iv) locally-produced programs designed specifically for distance education.

This system is cost-efficient and offers flexibility and currriculum relevance. Because some of the materials are suitable for use in schools as well as in distance education, unit costs of production and/or purchase are offset by economies of scale.

Primary and secondary distance education were seen as having different requirements for video materials. At the primary level visual stimulation is emphasized for subjects like language (oral expression, written expression, creative writing, and so on), social studies and art. At the secondary level where subjects such as mathematics, science, history and geography (or social studies) tend to be content-and-process-specific, instruction in particular aspects of the curriculum can be presented most effectively through visual media. Secondary science was singled out as a subject which benefits from the use of video tapes to supplement print materials. In general, however, it was agreed that there should be an appropriate mix of visual and written material for all subjects at all levels of schooling.

Particular suggestions made by individual groups were:

- that secondary students benefit from tutorial-type discussions using HF radio or teleconferencing. (There should be opportunities for the integration of these activities with broadcast or recorded video programs);
- that those subjects which are able to be presented more effectively through the medium of television should be given priority (examples offered were art, instrumental music, or 'bothersome' aspects of core subjects);
- that the Loan Video Program should be available to all distance education students (correspondence school as well as school of the air); and
- that video programs need not be of broadcast quality: simple video lessons produced by individual schools or teachers, even of the 'chalk and talk' variety, can be useful.

It was emphasized again that the effective use of these media depends upon the availability of:

- broadcast networks accessible to all isolated homes and communities;
- reliable sources of power, generated at time compatible with broadcast transmissions; and
- reliable telephone and/or HF radio services if they are to be used for interactive audio activities.

Isolated Children

KIM BEAZLEY*

The scheme of assistance for isolated children is one form of compensatory education - it is an attempt to compensate for the disadvantages of remoteness from centres where education is readily available.

Australian society is allegedly egalitarian, yet, to my knowledge, every form of compensatory education has been delayed, resisted, or resented. The scheme to assist isolated children is the least resented, but it was certainly delayed. The power to grant 'benefits to students' was given to the Commonwealth in the referendum of 1946. The federal isolated children's scheme began twenty-seven years later, so it was not exactly rushed. When it was introduced I received a letter of strong criticism from the then Minister for Education in Victoria, Mr Lindsay Thompson, on the ground I had my priorities wrong. I am aware, of course, that some States had isolated children's schemes, mostly for secondary students. The Commonwealth secondary grants scheme then existed, and it consisted of a scholarship that had to be won. New South Wales, Tasmania, Western Australia and South Australia provided secondary scholarships, which had to be won on a basis of scholastic merit, for children remote from a suitable school.

The year 1972 - only the year following the formation of the Isolated Children's Parents' Association - I obtained Mr Whitlam's approval to announce, in my then capacity as Opposition education spokesman, annual allowances of $600 for the assistance of isolated children. We are now considering different money values from those today. The figure was arrived at as a boarding allowance of $15 a week for forty weeks. A State-Federal Conference in June systematically considered the needs of isolated children, and this was fortunate in the atmosphere it created. Replacement of the Menzies' secondary school scholarships by an allowance to assist poor family students in secondary Years 11 and 12 was never so recommended, and has never been fully adjusted to the changing value of money. When it commenced in 1973 it was $450. Now it is $871. It should be $1,350 to maintain original value.

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* The Honorable Kim Beazley, Chairman, Committee of Inquiry into Education in Western Australia (1983) and former Commonwealth Minister for Education (1972-75); paper delivered at the National Workshop on Distance Education Dinner, Thursday, July 14, 1983.

The bilingual program for Aboriginal education was and is resented. It does not fit well with promotion systems in government schools, and it is expensive. When I was young we resented with vicious intolerance foreigners 'talking their lingo', as we called it, in buses and trams, and I know of people in education grinding their teeth over the idea of an Aboriginal education establishing first literacy in aboriginal languages.

It was the action of parents which brought the need for an isolated children's scheme into notice on a Commonwealth basis, at Bourke in New South Wales in April 1971, with the then rural depression as a spur to action, and this was the cause of the question becoming a political issue at the Federal level.

Mr Whitlam's originally warm approval for the idea of the allowance was shaken before the election of his government in December 1972. A member of an ICPA deputation, ostensibly speaking only for isolated children, took the eye off the target and launched into an attack on Gorton's age-limited Aboriginal secondary allowance grant, which had started a couple of years earlier. Privately I afterwards found that Whitlam was fuming and had rushed to the conclusion that an aim of the ICPA was to take something from Aborigines.

My diary for January 8, 1973 shows that on that day I submitted to Cabinet three educational proposals. One was for an unmatched grant for $5,000,000 for College of Advanced Education Libraries - 'unmatched' was an unusual feature because funding of tertiary education was in those days a joint State-Federal responsibility; another was the extension of the Aboriginal secondary scheme throughout secondary education; and the isolated children's scheme was proposed to apply at both primary and secondary levels. The Prime Minister first said the isolated children would have to await the Karmel Report, but I had to explain that Karmel was considering school funding, not student allowances.

On the 9th the Aboriginal scheme was accepted. On the 10th the CAE libraries grant was accepted, but, because of the Prime Minister, the isolated children problem was referred to a committee.

On the 11th I had to go to a special discussion with the Prime Minister on a number of matters including isolated children - still without his support. On the 16th a Cabinet Committee on isolated children met before the meeting of Cabinet. The Committee met for one and a half hours, and, in essence, swung to support the scheme because of a strong spasm of irritation on the part of Clyde Cameron against the assumption that graziers were wealthy, and that there were no great numbers of rural poor.

The $600 flat rate grant proposal was making heavy weather, and he, invoking all his experience as a shearer about low drought-affected rural incomes, and about the needs of the families of itinerant workers, moved for isolated children an amendment.

There was to be $350 free of means test; a further $350 with a means test.

A clothing allowance of $150 was proposed by Cameron; a book allowance of $50 and pocket money allowances varying according to the age of the pupil from $26 (fifty cents a week) to $104 ($2 a week). This is how the top

figure of $1,004 was arrived at. Although this isolated children's allowance has been adjusted to changing money values, I was surprised to note in December 1982 that the estimate for 1983 was 19,600 children to receive $19,600,000 - which is $1000 a head on average, but of course can be much higher.

My diary for Wednesday, January 17, 1973 shows conversations with the responsible officer of the Department, Don Morrison, mostly on definitions of isolated children. But the announcement had been made on behalf of Cabinet and my diary notes telephone calls from Messrs Mitchell and Powne of the ICPA expressing pleasure at the decision. They had been strong and intelligent advocates.

I lived the the illusion for a few weeks that the Commonwealth scheme would be *additional* to the State schemes, but, except for Queensland, the States indicated they would use the money they could save for other rural education priorities.

The definition of 'isolation' began to shift and so did the idea of 'appropriate school'.

Clearly handicapped children might need access to a special school, even if they were near an ordinary school. Then there might be children who needed particular courses of study because they had in mind

. special matriculation for entry to a course of study at tertiary level. Subjects needed might not be available at a nearby school.

or

. an agricultural emphasis on secondary education might not be available nearby, yet that emphasis was needed.

or

. there were children gifted in the performing arts and art - thus a student in Narrogin with musical bent needed to go to Perth Modern School.

The question of the provision of transceivers, and the right of children to travel to and from home each term, with payment of their fares; the question that isolation might be a consequence of bad roads and difficult terrain, rather than distance as the crow flies, were all resolved: but not finally resolved in my time; and it was the measure of how thoroughly the Isolated Children's Parents' Association has 'arrived' as an influence that the Senate Standing Committee on Education and the Arts brought out a special report after a special study of the issue.

The essence of the scheme has remained in the form of boarding allowances, second home allowances, correspondence allowances and travel rights. The Senate Committee got onto the question of children of itinerant and seasonal workers whose constant changes of place of residence make it impossible to attend school regularly and constantly disrupt their schooling, but nothing happened about them, or about most of them.

The journal of the Commonwealth Department of Education, *Education News*, for December 1982 shows that this problem has not been resolved. Appar-

ently 300,000 people live in caravans. One third of these are children under 15: 60,000 of these children are of school age. According to *Education News* one feature of modern 'progressive' education has a shattering effect on the itinerant children:

> moves towards a more school-based curriculum may have a beneficial effect for community, teachers, and the majority of students, but they are the very antithesis of what is needed for those children whose changes of school are frequent, and do not necessarily happen neatly at the end of a term or school year.

A study by Mrs Lois Summerville financed by the Commonwealth Office of Child Care commented about these caravan dwellers:

> We may conclude that not only does the education of caravan children suffer from the disadvantage of their low socio-economic background, but also from a number of conditions imposed by the caravan life style itself... ranging from lack of privacy for study to the predictable suspiciousness with which educational authorities view such a life style. However, it is fair to say that these diverse schooling problems have their common root in the sheer number of schools which these children attend, and the movement between different schools and different State systems.

There has been some application of correspondence and some application of the scheme of Assistance to Isolated Children to their plight, but I think it fair to say that inertia, apathy and resentment at another call for compensatory education leave them disadvantaged. This would be a special pity because their plight, passionately declared by Clyde Cameron on Tuesday, January 16, 1973 overwhelmed all opposition to the scheme for isolated children. His argument about the needs of children of itinerant workers was the decisive argument in starting the whole Federal scheme. It swung Cabinet.

My last point is about this opposition to what children need, or any negative. I believe that *any* divisiveness in education damages *all* education and rouses political suspicion. I hope I am not treading on religious sensibilities when I say that the cause of Catholic education began to advance when Bishops stopped talking about 'Godless schools'. Whitlam had had no reservations about the needs of isolated children till somebody attacked Aboriginal secondary grants when on an isolated children deputation. Mr Hawke became contra-suggestible to the A.C.T. Teachers' Federation when they started picketing against Catholic and Anglican schools - the recent case of the projected Radford College and the earlier case of joint use of a school at Wanniassa. Persecution about education has a bad history, and the modern trend to treat all Australian children fairly as citizens is its antidote.

The Isolated Children's Parents' Association has been part of a unified campaign for education and has not fussed what schools children attend, government or non-government, provided their needs are met. I hope it stays that way.

PART III
Revitalizing Distance Education

Revitalising Distance Education

ORMOND TATE*

This paper is based largely on my experience with the New Zealand Correspondence School. However, although the Australian correspondence schools differ from each other and from New Zealand, these seven schools exhibit many similarities and common elements, and the matters I will raise are relevant to all of them.

A correspondence school or distance education organisation can profitably be looked at as a system, as shown in the accompanying diagram, with:

. *Inputs of people, ideas and things* which form the structure of a school or institution with

. *Teaching, pastoral and administrative systems* which together provide learning opportunities and teaching services through a *curriculum* that

. *Involves students in a wide range of learning acitivities* which are

. *Evaluated* by marking, comments, tests and examinations as

. *Outputs* of knowledge, abilities and attitudes and

. Giving rise to *feedback* which affects the system.

There are sub-systems within the overall school system and relationships between parts of the systems.

AIMS

The New Zealand Correspondence School has four main aims:

. to provide an education for pupils who cannot attend a school, preschool or teachers college;

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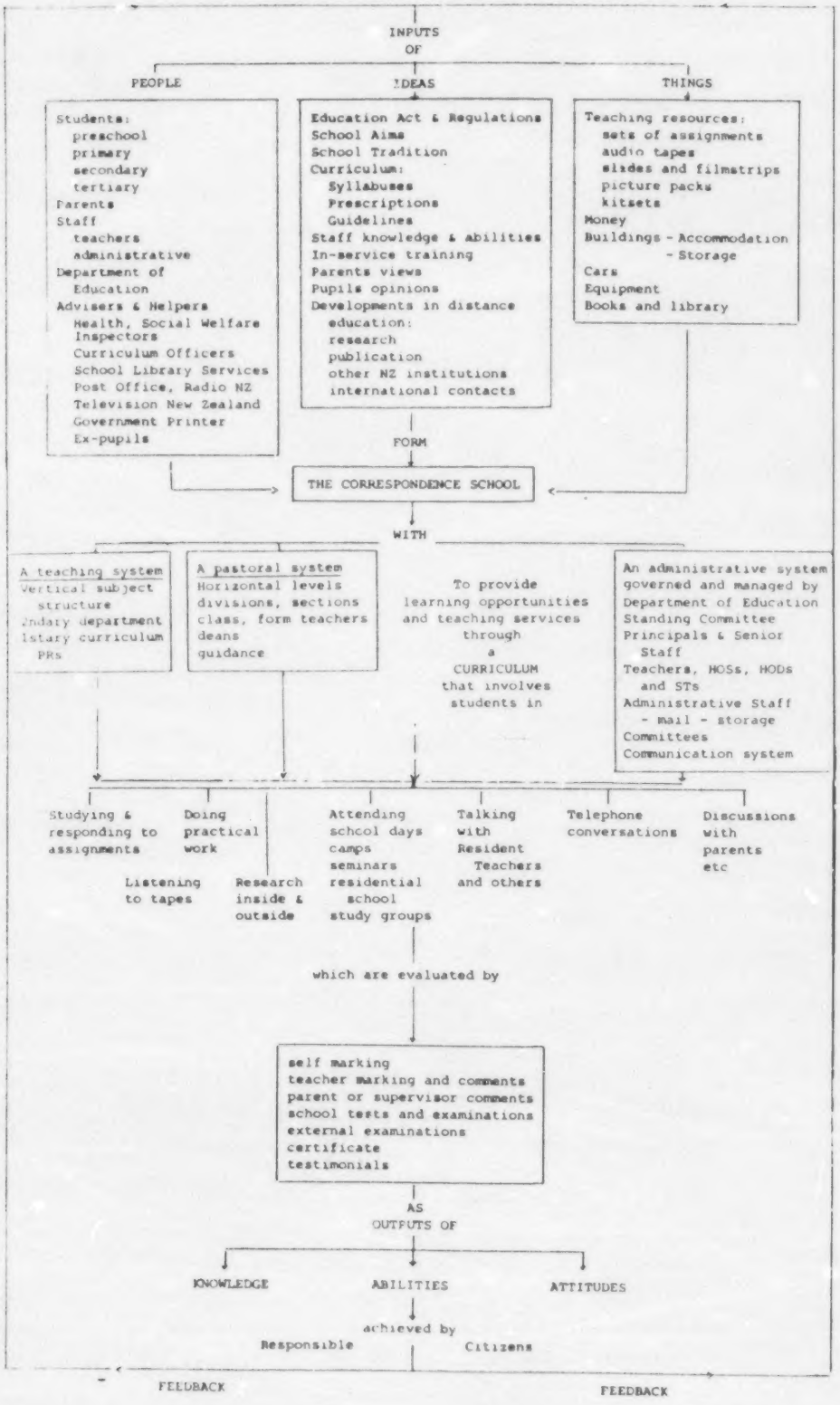
* Ormond Tate, Principal, New Zealand Correspondence School

THE CORRESPONDENCE SCHOOL AS A SYSTEM



- to provide a supplementary educational service to pupils and schools in special circumstances and those whose educational needs cannot be met in any other way;

- to provide continuing education in school level courses for those who have left school;

- to develop educational resources for school subjects.

To 'provide an education' means to provide a *comparable* education with that in face-to-face schools. There is a problem of credibility with many people - in the Department of Education, among fellow teachers and principals and among parents, pupils and the public. Correspondence School students have to achieve as well or better than pupils in other schools in public examinations or achievement tests. Most people are well aware of the possibility of children's social isolation in correspondence education and feel that not only is conventional schooling the norm, but that whatever the quality it is always preferable to correspondence. Providing support services and social interaction at school gatherings and activities is only part of the answer. In addition, standards of achievement have to be as good as, or preferably better than, those pupils would achieve in conventional schools.

AN OBJECTIVE DATA BASE

Whenever a system is being established or revitalised it is necessary to develop a comprehensive, objective data base. This data base enables administrators to construct a model of the system which is as accurate and realistic as possible. It is a useful aid in decision making and in assessing some of the practical effects of changes in procedures or of innovations. To be useful in making decisions, data must be:

- relevant

- easily recorded

- progressively updated

- consistent

- comprehensive

- easily accessed

Relevance of data depends on purposes and aims of the institutional system or part of the system.

OBJECTIVES

Each section of department of the school has objectives which are more detailed components of the school's aims. These objectives need to be:

- clearly thought out

- well stated

. consistent

. understood by staff

If teaching procedures and data are related to aims and objectives there is less danger of the institution apparently catering well, but providing the wrong things for the wrong people. It is necessary to assess needs to evaluate outcomes of the provisions to meet these needs if administrative decisions are to be made which impel the institution towards more effective achievement of its aims and objectives. One danger is that a section of the school may see the provision of 'good' data, that keeps you happy, or which shows that section in a favourable light in comparison with other sections, as an aim. This may lead to local adaptations of criteria or specifications, for example teachers counting a French audio-lingual tape and the assignment accompanying it as two separate units on their marking return.

INPUT—RESOURCES

Distance education systems, structures and services need to be both effective and efficient. If a system achieves its aims it is EFFECTIVE, but the system has to be considered in terms of the inputs needed to achieve the effects. One effective system is more EFFICIENT than another effective system if it achieves the same outcomes with the use of fewer resources. When resources are scarce we want to develop efficient systems, structures and services. An administrator with scarce resources of money, manpower, equipment and time, tried to allocate them to the area where they will have the most effect in achieving aims. Consequently outcomes have to be assessed.

Courses and Teaching

It is easy for teachers to develop courses which they think are very good, and which appear to be a great improvement over previous courses, but student results are no better than those achieved with the replaced course. Courses and teaching can be assessed in terms of:

. student achievement in public examinations;

. rates of return of student work;

. completion rates of courses, numbers of sets/student;

. correlation of internal assessments with sets;

. feedback from students in questions, letters and comments from resident teachers, form teachers and parents; and from schools that students go to;

. university pass rates of matriculated students; and

. questionnaires in assignments.

The Correspondence School students' results in public examinations are monitored very carefully and a statistical analysis is prepared each year. These are discussed with heads of departments when considering course

writing, staff training, and teacher allocation. Correspondence School students sit the same public examinations as students at the same level in conventional schools, such as School Certificate, University Entrance and University Bursary and Scholarship. They are also internally assessed for Sixth Form Certificate and Higher School Certificate. Some results are tabulated below:

Some National Examination Statistics

	1975	1976	1977	1978	1979	1980	1981	1982
Candidates	8	5	5	7	11	11	14	14
A Bursary	-	2	0	2	4	3	2	3
B Bursary	7	-	2	1	1	1	7	7
Entrance Scholarship	-	-	-	-	-	1	-	-
% Pass-rate	88	40	40	43	45	45	64	71

Table 1: University Bursaries Examination Pass Rates

	1975	1976	1977	1978	1979	1980	1981	1982
Candidates	637	697	962	1026	1165	1375	1430	1341
Subjects	1070	1249	1302	1514	1609	1778	1918	1752
Subjects passed	593	714	800	917	1016	1117	1269	1193
% Pass-rate	55	57	61	60	63	63	66	68

Table 2: University Entrance Examination Subject Pass Rates

	Number Candidates	Number Accredited	Total Passed	% Pass
1982	68	44	50	74
1981	92	51	57	62
1980	76	36	45	59
1979	73	35	41	56
1978	85	34	45	43
1977	78	29	33	43
1976	78	29	40	51
1975	66	29	41	62

Table 3: University Entrance Percentage Group Pass Rates

	Candidates	Subjects Entered	Subjects Passed	% Pass Rate
All schools - 1981	74 821	328 062	168 228	51
All Correspondence School Students				
1982	1 620	2 231	1 318	59.1
1981	1 582	2 129	1 183	55.6
1980	1 684	2 411	1 296	53.8
1979	1 693	2 358	1 211	51.3
1978	1 469	2 298	1 189	51.7
1977				54.3
1976				53.0
1975				55.1

Table 4: School Certificate Examination Subject Pass Rates

The tables show that Correspondence School students perform in these public examinations as well as, or better than, students in other schools. This helps maintain the credibility and high standing of the Correspondence School in New Zealand and overseas.

Quality of Staff

Good quality staff are essential. They need to be:

- good teachers, not castoffs;
- co-operative and able to work together;
- dedicated to their students
  - in personal relationships;
  - in having their welfare at heart;
  - in making procedures work efficiently;
  - in assessing student achievement and progress.

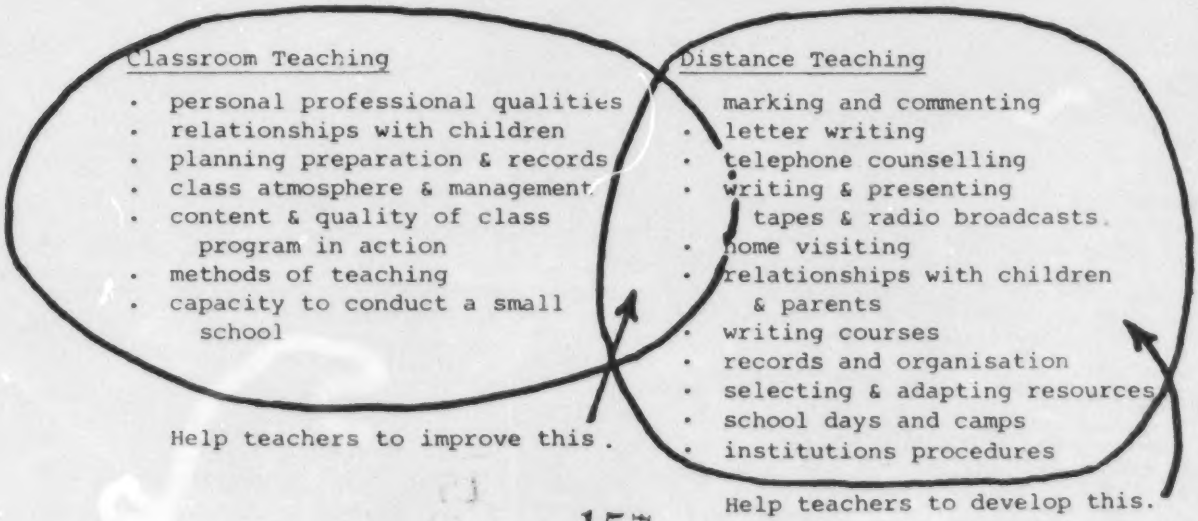
Teachers and teacher-administrators need clear job descriptions which they understand and attempt to fulfil. Job descriptions need to be discussed with the staff concerned to ensure that they have similar perceptions of what is involved, of priorities, and of relationships with other staff.

In the Correspondence School, teachers' work is supervised by senior teachers, heads of sections or departments, deans and deputy principals.

Last year the principals started regular evaluation and planning sessions with senior staff in each section or department. At these sessions the status and quality of courses, assessment, results achieved, quality and morale of staff, equipment and finance are reviewed. In addition all staff in each section or department have reviewed the aims, methods, resources, achievements and plans of the section or department, publicly for the school or in a series of major open meetings.

Teacher Training

It is assumed that all teachers are trained and experienced in teaching, albeit imperfectly. The task is to train them in distance education.


Classroom Teaching
• personal professional qualities
• relationships with children
• planning preparation & records
• class atmosphere & management
• content & quality of class program in action
• methods of teaching
• capacity to conduct a small school
Help teachers to improve this.
Distance Teaching
• marking and commenting
• letter writing
• telephone counselling
• writing & presenting tapes & radio broadcasts
• home visiting
• relationships with children & parents
• writing courses
• records and organisation
• selecting & adapting resources
• school days and camps
• institutions procedures
Help teachers to develop this.

Inservice training needs to help the teachers to improve relevant general teaching skills, and to develop their distance teaching ability. General programs can be mounted for:

(a) new teachers - induction; and

(b) all teachers - as part of a planned comprehensive program over several years.

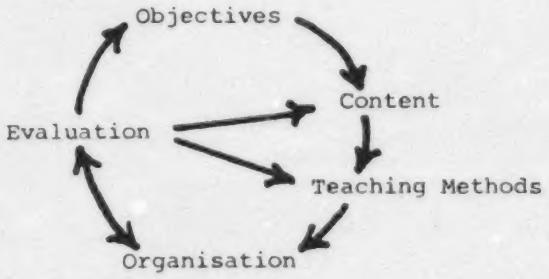
In addition each individual teacher needs specific teaching training to meet his or her situation.

Institutional Expectation	-	Individual Experience and Status	=	Required Inservice Training
(duty list + required personal qualities)		(individual personality + personal abilities + expectation)		

A buddy-system is used so that each new teacher is attached to an experienced teacher who is particularly good at his or her job, is patient, considerate and helpful.

Curriculum Development

Knowledge and experience in curriculum development is necessary for both classroom and distance teachers. Course planners, writers, organisers and heads of department need considerably more than a passing knowledge of curriculum development and this is usually an area where inservice training is necessary. A straightforward traditional model of curriculum development seems to work quite well, for example adapted Tyler/Wheeler model.



Teachers usually have little problem with knowledge of content and most able, experienced teachers can choose interesting and sound methods. However, organisation of material into a course adapted to the constraints of your distance education system presents difficulties, for example:

. the first three sets to be short, clear and easy with a lot of self marking, no textbook references, and no tapes.

. themes, or material that is further developed or used for other work to be in sets 1, 4, 7, 10, 13, 16
or 2, 5, 8, 11, 14, 17
or 3, 6, 9, 12, 15, 18.

This enables teacher input and interaction, remediation or consolidation.

The areas in which teachers seem to need the greatest help and training are in classifying objectives and assessment and evaluation. Prejudices and ignorance greatly outweigh knowledge or ability in both of these areas.

Ideas

Department of Education: The Correspondence School maintains close contact with the Department of Education, particularly the Development Division, so that teachers are aware of, and can anticipate changes in, methods, national syllabuses, examination prescriptions and guidelines.

We try to ensure that teachers are involved on national syllabus review committees, in national and regional inservice training courses, in setting and marking national examinations, and use the services of local advisers and inspectors of schools.

Other Educational Associations: Teachers are encouraged to belong to, attend and hold office in local or national subject associations, for example New Zealand Association of Language Teachers. Their fees for attending courses or conferences may be paid, the school buildings are made available for their meetings and typing, clerical and postage assistance is given to secretaries of associations. This ensures that our teachers are in touch with the thinking and emphases in schools, participate in making submissions, and are aware early of proposed changes.

Other Distance Learning: Close contact is kept with the other two major distance learning institutions, the New Zealand Technical Correspondence Institute and Massey University Centre for Extramural Studies.

A library of books and journals on distance education is being assembled. Staff are reading about other distance education institutions, their methods, resources and research, and examining the ideas in terms of applicability to this school.

Communication: Establishing effective communication systems is most important. Communication upwards and downwards can be hampered or distorted by too many hierarchical levels, and steps have to be taken to prevent this. Alternative channels and informal means of communication help to do this. Sideways communication is the most difficult, but is necessary to ensure that all people involved in, or affected by, a decision are aware of it and have had an opportunity to contribute to discussion prior to the decision being made. Effective sideways communication can avoid duplication of effort and repetition when a person or group of people rediscover what others have known and been practising for some time. It facilitates wider application and better use of individual abilities and helps the institution to function more compactly and efficiently.

Finance

Principals have a powerful tool for revitalising and influencing the direction of their institutions in the allocation of money. The annual budget involves obvious and covert policy decisions, for example to encourage travelling by junior primary teachers. Finance should be allocated:

(a) to achieve the school aims, that is for effectiveness, to reinforce and implement policy decisons;

(b) to where it will result in the greatest educational benefit for the least expenditure, that is to the most efficient sections and departments.

(i) There may be some conflict with (a) and it may be necessary to allocate money to less effective sections to provide the services you think should be fostered and emphasised. Then these services can be reviewed to improve their efficiency.

(ii) Some traditional or expected functions have to be maintained and financed because they are necessary or because of public, parental or departmental expectation.

(c) to give staff a sense of responsibility and freedom, which may increase commitment and loyalty. Care has to be taken to ensure that the sqeaky wheel doesn't get too much oil, and that pearls aren't cast before swine.

It is difficult to evaluate objectively the effectiveness of different media and resources, for example: Are audio cassette tapes worth the cost in staff time to write, present, record, copy, store, despatch, recover, wipe and recopy? How do they compare for cost effectiveness with colour printing, radio or television programs, and so on? A difficulty all administrators face is evaluating the outcomes of using different methods and resources - issues are seldom clear, there is not enough time, and research studies are often irrelevant.

Short-term goals and effectiveness tend to be emphasised at the expense of long-term goals and results. However, changes in the allocation of money can achieve real changes in educational direction, balance and effectiveness.

It is difficult to compare the costs of education by correspondence with the cost of educating pupils in ordinary schools because there are many hidden factors in the costing of correspondence education. Insofar as it is possible to estimate, however, the following comparison of operating costs may be made.

	Financial Year			
Pupils attending	1981/82	1980/81	1979/80	1978/79
Normal State Primary Schools	1024	820	658	630
Normal State Secondary Schools	1734	1606	1000	980
Correspondence School (all pupils)	1114	959	611	584

Table 5: Annual Operating Costs in Dollars of Education Per Pupil

It is also much cheaper to educate by correspondence than to build hostels and provide boarding bursaries. This lower operating cost per pupil is a pressure factor in endeavouring to get extra resources for revitalising a distance education institution.

MONITORING PROCEDURES

Procedures within the system are designed to facilitate the work of the institution in achieving its aims. Each of these procedures has its own purpose or aim. If adequate data are available the procedures can be evaluated. Some examples are:

Throughput of Student Work

Distance Education is characterised by delayed and/or intermittent communication, and revitalising systems requires a good throughput rate. In the Correspondence School it is monitored by sampling the outward mail bags each week, and recording the dates on which the student work was received by the teacher, went from the teacher to the central despatch for the addition of assignments, and was in the outward mail. Unacceptable delays are investigated, not for censure, but to try to establish the reasons for the delay and overcome them, and to devise procedures to avoid similar problems in future.

Marking Rate

The receipts of assignments, number marked, number still on hand and the number that have been in the Correspondence School longer than a week are recorded. This provides a cross-check on throughput data.

It also indicates use of staff, need for staff in certain areas, and the balance between time spent in sections and departments, administration, writing, and so on, and teaching. Comparisons are made with the time in previous years. This can also indicate the number of sets completed per student, which has increased by 6 per cent, 6 per cent and 8 per cent in the last three years respectively. It seems quite clear that the quicker students get their work back, the quicker they return it. However,

teachers soon realise that they are making work for themselves, so that marking methods and lesson design have to be reviewed.

Postage Times

This is surveyed every three or four years. While it is beyond school control, it affects the pattern of students' work and we need to be aware of variations. A survey taken in November 1978 showed:

	Outwards to Student	Inwards to School	Total Travel Time
North Island			
Range	6-28	1-35	
Mean	8.56	7.02	15.5
South Island			
Range	6-14	1-14	
Mean	8.55	6.45	15.0
Overall	6-28	1-35	
	8.6	6.8	15.4

Table 6: Postage Times

It is important that monitoring procedures are presented and repeated in a non-threatening light. It must always be explained that the purpose of investigating mess-ups and delays is to discover if there are deficiencies in the procedures that need to be remedied. It is also to find out if there are particular staff who repeatedly make mistakes, or omit necessary steps, and consequently need some further training, explanation or supervision.

METHOD OF APPROACH

I believe that to establish and revitalise distance education systems it is important to work WITH the institutions and staff concerned as PARTNERS to help them to discover and relate the outcomes of their programs to their teaching and procedures.

We have tried to reinforce and reward sound, innovative behaviour by publicity, using such teachers as consultants, resource persons or members of working parties and committees. The apparatus of administration has been geared increasingly to support attempts to improve and to create an innovative climate, by giving publicity to innovations, giving personal recognition, encouragement, co-operation and social support for individual teachers who have shown ability and willingness to experiment to improve their section/department and teaching. This has revealed once again the extent to which changes in software, that is curriculum and teaching, are related to changes in roles and relationships between teachers, administrators and pupils, and to changes in hardware, that is equipment and buildings.

We have tried to reduce resistance to traditional methods of change in which the teachers are targets for innovations. We have endeavoured to overcome barriers of:

- the environment or the community at large resisting attempts to improve systems, by encouraging the involvement of and feedback from parents;

- teacher defensiveness or habit, selective perception and retention, dependence on routine regularities, lack of confidence or feelings of threat and insecurity, dogmatism or ignorance, by involving them co-operatively with their fellows in an 'authorised' activity;

- teacher powerlessness because of the absence of a change agent, by providing time, encouragement, information and consultants, so that leaders can develop among a school's staff where possible;

- the dichotomy between developer or innovator and implementer, by making teachers partners in the total process of innovation by problem solving;

- the incomplete linkage between theory and practice by encouraging teachers and administrators to gather data and monitor their achievements, thus providing a better basis for identification of issues, choice of solutions and evaluation of changes;

- confused goals by providing the opportunity and resources for teachers to clarify their own goals and resolve the contradictions within the school in co-operation with their colleagues and community;

- unwillingness or difficulty in diagnosing weaknesses and defensiveness to external criticism by inviting teachers to examine the outcomes and implications of their programs and to identify their own problems; and

- struggle for survival and commitment to present routines. Few teachers go out of their way to analyse unmet needs, develop ways of meeting those needs and implement new programs. Teachers are very much concerned with the business of teaching and have personal allegiances to the present system, so that they find it very difficult to change practices that extent beyond their own classroom.

The quality of any particular innovation, its nature and intrinsic value and its potential for improving learning, is not usually the main reason for its implementation. Whenever an important change is proposed, teachers are being asked to interact differently with each other and with students, so that the main emphasis is to develop favourable attitudes. One way of doing this is to involve teachers in deciding on the need for, in planning and in developing the innovation, so that they are more committed to making the necessary changes.

It is not a matter of either central decisions and planning, or of throwing everything over to teachers. Dewey taught us to avoid easy dualisms and dichotomies like this. It is a matter of developing appropriate attitudes and of providing the appropriate central administrative support so that local initiatives are possible, and stand more chance of success.

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Appendixes

Appendix 1

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Appendix 2

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